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ABSTRACT

This literature review, part of the Project BORN FREE training series for teachers, counselors, administrators, and parents, examines the relationship between sex-role socialization and career socialization. The materials focus on psychological variables affecting career options, occupational opportunities and career information processing, educational opportunities and sex-role stereotyping, and interventions designed to reduce sex stereotyping. Conceptual models, theories of socialization, and results from empirical studies are also discussed. (Author/KMF)

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Project BORN FREE

SELECTED REVIEW OF THE LITERATURE ON CAREER DEVELOPMENT AND SEX-ROLE STEREOTYPING AT THE POSTSECONDARY/HIGHER EDUCATION LEVEL

by

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The Authors

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INTRODUCTION

The BORN FREE literature review at the higher education level examines the relationship between sex-role socialization and career socialization in a variety of ways. The review begins by identifying psychological variables such as self-concept and self-esteem; locus of control or sense of agency; achievement motivation, including studies on fear of success, fear of failure, and fear of loss of affiliation; and expectancies and attributions of causal relationships. It looks at occupational sex-typing, role expectations and conflicts, educational-occupational distributions and attitudes of significant others. It also identifies institutional variables such as barriers to role-free career development and interventions created to deal with the barriers.

The review builds on a conceptual model for career development created by Tennyson, Hansen, Klaurens, and Antholz (1975) called the "Career Development Curriculum" (CDC). Drawing from the concept of individual mastery of developmental tasks, the model identifies several career management tasks for the post-high-school years. These have been modified for BORN FREE to include:

1. Reassessing and clarifying self.
2. Exploring preferred occupational and lifestyle alternatives.
3. Acquiring information seeking and processing skills.
4. Developing competency and interpersonal skills to relate to work organizations.
5. Making a tentative commitment to the next life stage.
6. Acquiring responsible independence and the skills to manage change in self and society.
7. Creatively applying management skills to life roles.

While not all the literature examined provides an exact parallel to the CDC, mastery of many of the developmental tasks related to self-concept, achievement, information processing, and role integration holds clear implications for career options and sex-role stereotyping.

Focus on Both Women and Men

College-age women and men are limited in their career options by traditional societal roles and the "should" messages received as children. As women start redefining and re-examining their roles, men will experience greater pressure to redefine their roles as well. Hawley (1976) states that "most individuals live and work in close proximity with members of the opposite sex so that it becomes apparent that one sex cannot redefine itself without affecting the other" (p. 1). Thus, the process of sexual redefinition becomes an immediate and personal one affecting all aspects of a person's career pattern and choices.

This review is focused on literature relevant to the building of options, reassessment of norms, and freeing of roles for both women and men through educational equity as suggested in the project's acronym, BORN FREE. The scope of this review is intended to assist in understanding and analyzing the implications of sex-role stereotyping for men and women in postsecondary/higher education. It also describes strategies that are being used in postsecondary/higher educational institutions to reduce the influence of sex-role stereotypes and increase an equitable distribution of resources.

Going beyond the more obvious indices of discrimination in jobs, the search has tried to bring out the more subtle but profoundly influential assumptions that define the basic identities and roles of human existence. Information on superficial aspects of sexism is readily available in the popular literature, while many less obvious but more insidious biases are disguised by the institutions of higher education so that evidence of their influence is more difficult to substantiate.

It is clear that by the time young women and men reach the postsecondary years, most of their socialization to sex roles already has taken place. However, there is evidence that college does change people and that opportunities for particular experiences, including access to higher education itself, play an important role in the career development of students. With awareness of the legal implications of sexist practices, and as the student population continues to include in increasing numbers the non-traditional student--the re-entry woman, the mid-life male career changer, the older person, and others with somewhat different needs and characteristics than the 17- to 21-year-olds--the questions of institutional barriers become increasingly important. A reminder that women's access to higher education has been more recent and more limited than that of men is provided in the following historical statement by the president of the University of Missouri in 1870:

> Finding...that the young women did no manner of harm, we very cautiously admitted them to some of the recitations of lectures in the university building itself, providing always that they were to be marched in good order, with at least two teachers, one in front and the other in the rear of the column as guards... (Revolution II: Thinking Female, 1970).

Absence of Research on Male Sex-Role Stereotypes

There is a striking absence of research literature on men to correspond with the abundant literature about how sex-role stereotypes affect women. In the search the investigators have tried to identify materials where they are available about men and to highlight the need for more research on men's roles where the literature is not available. To some extent one may speculate, from findings related to the effects of sex-role stereotyping on women, about how those effects might inhibit male options as well. The emphasis throughout this literature search has been on bringing about change toward educational equity for both men and women, in their access to meaningful careers and life goals.

Because researchers only recently have begun to look at the changing roles of men and the impact of traditional male career socialization, many of the studies cited here are focused on female career development. In a few studies examined men were given cursory glances (On Campus with Women, November 1975, June 1976). In only one study (Blimline, 1976) was there an intervention which deliberately focused on sex stereotyping as it applies to both men and women. Although a unique characteristic of BORN FREE is its focus on career options for both sexes, the review which follows will of necessity deal primarily with the variables, issues, and interventions which have inhibited or enhanced the status of women students in institutions of postsecondary/higher education. Perhaps greater numbers of male or female educators will soon discover that men students in institutions of higher education are also often trapped in the snares of sex-role stereotyping and will begin to develop programs to cut away those snares. The awareness is there, as Hawley (1976) pointed out, and perhaps more action will be forthcoming. In any case, as enrollment patterns change, as women and men struggle against stereotypes, their socialization in college will surely differ from that of their predecessors.

Lack of Attention to Sex-Role Stereotyping in Postsecondary Vocational Schools

The search did not reveal any interventions to reduce sex-role stereotyping in the postsecondary vocational schools. However, it is assumed that a number of activities are now under way because of the heavy provisions in the 1976 Education Amendments for reducing sex discrimination in vocational education.

Sources and Organization of Review

The literature review utilized the resources of the Education Library at the University of Minnesota, as well as the manual and computer search facilities of the ERIC System, Psychological Abstracts, Sociological Abstracts, and the Smithsonian Collection. A thorough perusal of current education and psychology journals which have not yet reached the indexes was also done as well as of journals which are not indexed in the abstracts. Resource collections of the Emma Willard Task Force on Education and the Minnesota Women's Center were gold mines. A number of bibliographies, some of them annotated, are in those collections, as well as in the personal libraries of the researchers. Several monographs and special issues of journals, as well as recent books and journal articles, were provocative sources of information and of additional citations. Because of the rapid change in this field, the emphasis here has been on surveying the research within the past five years.

This review of literature is organized into four parts. Part I presents some of the main psychological variables affecting career options in higher education. These include internal and external barriers to career development, identifying models for examining these barriers; sex-difference stereotypes; self-concept and self-esteem; locus of control; motivational variables in achievement, including achievement motivation and fear of success; and cognitive variables, including expectancies and attributions.

Part II examines career-related sex-role stereotyping in the area of occupational opportunities. Besides presenting figures on the general occupational distribution, it includes sections on sex distribution in vocational fields and in two-year postsecondary education. It also deals with such related areas as career information processing, occupational sex-typing, role conflicts, role models, androgyny, and influencers (including counselors, parents, and partners).

Part III reviews the higher education literature on ways in which women primarily have been disadvantaged in educational opportunities. This section deals with a variety of barriers including admissions practices, financial aid, enrollment patterns, influences of faculty and counselors, and written materials.

Part IV presents a variety of interventions which have been developed to reduce career-related sex-role stereotyping in higher education. These include such interventions as women's studies, career resource centers, support groups, and special courses. The conclusions provide a succinct summary of major generalizations about career-related sex-role stereotyping, particularly of women and men in higher education.

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PART I: PSYCHOLOGICAL VARIABLES AFFECTING CAREER OPTIONS

Internal and External Variables

How do the sex-role stereotypes prevalent in a society operate to inhibit or facilitate the career development of individuals? It is fairly easy to see the operation of factors which exist in the environment external to individuals themselves, such as attitudes of others toward the competence of one sex or another, discrimination in hiring, promotional and training opportunities, and so on. More elusive but equally influential in the eyes of some writers (Horner, 1972; O'Leary, 1974) are internal psychological variables which are believed to exert strong influences on behavior even in the absence of environmental supports or constraints. Examples of such internal variables are level of self-esteem, achievement motivation, or attitudes concerning the appropriateness of various activities for males and females.

The separation of environmental and internal variables is useful in attempting to order the data in an extremely complex area, although it is evident that in practice the two cannot be separated and each influences the other. The estimation which an individual makes of his or her abilities, for example, is not developed or maintained in isolation from the opportunities or rewards available to him or her in the environment and may in fact affect the availability of such rewards. Two models may help to clarify the issues and enable us to see the interrelationships of the various external and internal factors.

Conceptual Models

The first model (Parsons, Frieze, and Ruble, 1976) was based on the work of M. Brewster Smith (1969). Smith suggests that at our current state of theoretical knowledge in the social sciences a useful tool or heuristic device is a conceptual map to place "particular variables and relationships...in larger context" and to "disentable relationships among the kinds of variables that current knowledge points to as relevant" (Smith, 1969, p. 15).

In the model conceptualization of the relations between variables which create and maintain sex roles, the factors of cultural norms and situational factors are expressed at the level of the culture or society. Cultural norms and economic political realities serve as the basis of evaluating appropriate behavior and are the guidelines used in socializing children. Cultural norms also affect situational factors (discriminatory practice, peer influences, etc.) such as the existence of institutions which can either facilitate or inhibit various role choices. An example of such an institution would be cultural provision for child care supplemental to the family.

The model further suggests that cultural norms and expectations influence individual behavior, attitudes, and values largely through socialization. During socialization, both men and women--through observing role models and through explicit reinforcement and punishment--learn that certain attitudes, goals, and behaviors are consistent with the sex role they are expected to fill in the society, while others are not. The power of a thorough socialization is that the individual rarely questions the validity of such beliefs; they are accepted as the way things are--i.e., as fact, rather than as belief or opinion. As Bem and Bem (1972) point out, "alternative beliefs and attitudes about women [and men, we would add], until very recently, have gone unimagined. We are very much like the fish who is unaware of the fact that his environment is wet. After all, what use could it be?" (p. 2). The internalization of sex-role norms may mean that individuals never consider roles other than traditional ones; if they do choose a non-traditional path, they may experience conflicts which sap their energy and effectiveness.

A second model (Kutner and Brogan, 1976) concerns the relationship between sex-role stereotyping and the American educational system and is hence particularly appropriate for BORN FREE's concerns. The authors identify two major sets of independent variables which correspond to the internal and external variables discussed above: 1) internal psychological-cognitive structures of individuals who participate in the educational system and 2) the educational system itself. Differences in both of these classes of variables are seen to result in inequalities in educational achievement for the two sexes. Kutner and Brogan operationally defined academic achievement as enrollment in graduate, professional, and post-secondary technical schools; level of educational attainment; and occupational attainment and earnings. The model, thus far, has simply reiterated that factors internal to the individual as well as those inherent in the environment (here the school or college setting) must be considered when trying to explain women's lower educational attainments. Their argument becomes much more complex when they delineate the various factors which they consider crucial in shaping the internal psychological-cognitive structures of individuals (Kutner and Brogan, 1976, p. 54).

The model looks very complicated because it attempts to trace some of the many factors which may influence cognitions and psychological structure. The core of the diagram, however, is of most relevance here. Three variables--sex-role orientation, sex-difference stereotypes, and ego strength--influence the self-concept which in turn determines an individual's educational/occupational expectations and aspirations.

The basic variables identified in this model will serve as the framework for this review of the influence of internal psychological variables.

Sex Differences

Sex-Difference Stereotypes

In distinguishing between sex-role orientation and sex-difference stereotypes, Kutner and Brogan (1976) define sex-role ideology as a "normative view of appropriate behavior for males and females, i.e., a view of what males and females 'should' do," while sex-difference stereotypes are "perceptions of 'typical' characteristics (personality traits, interests, etc.) and behavior of males and females; these represent views of what males and females 'are like'" (pp. 58-59).

Some of the most often cited studies dealing with the "typical differences believed to exist between men and women were carried out by Broverman et al.

(Broverman, Vogel, Broverman, Clarkson, and Rosenkrantz, 1972). Beginning in the mid-1960's, they developed a questionnaire and designed a number of studies to assess the prevalence and content of current sex stereotypes. They found stereotypes existing in a broad spectrum of U.S. society. Males were described by traits they called "competency" attributes, such as being independent, objective, competitive, self-confident, and logical. Women were seen as lacking these competency traits and as possessing traits in the cluster labeled "warmth and expressiveness," such as being gentle, tactful, sensitive to the feelings of others, quiet, and tender. Neither men nor women were typically seen as possessing the traits characteristic of the opposite sex.

The effect of the stereotype of greater male competence is seen indirectly in studies demonstrating that identical products are evaluated more highly when attributed to a male rather than to a female. Goldberg (1968) found that both males and females rated an identical professional paper more highly when the author's name was male rather than female. In a later study (Pheterson, Kiesler, and Goldberg, 1971), paintings were judged to be more competently executed when male names were attached, except when the painting was designated a prize-winner. In that case, technical competence was judged as equal whether the painting was attributed to a man or to a woman. Apparently a situation in which "experts" validate performance leaves little room for bias resulting from stereotypes of greater male competency. Attaining the validation of "experts," however, may be a very difficult first step, since there is evidence that such gatekeepers are not free of bias either (Feidel, 1970). Deaux and Taynor (1973) found, for example, that when male and female applicants of equal and high competence were presented as applicants for study abroad, males were selected significantly more often. Males seem to be expected to be more successful. Feldman-Summers and Kiesler (1974) report that when asked to predict success in eight occupations, both male and female subjects expected males to surpass or equal females in all eight areas. Among the occupations were areas traditionally of female interest and competence, such as dancer and biographer of famous women.

The issue which is not clear in some of these studies is whether women are expected to be less successful than men because of lack of ability or because of perceived discrimination against women--i.e., a perception that they may have greater obstacles to overcome and will have to demonstrate "superwoman" characteristics to "make it." In either case, of course, this outlook would be discouraging to women evaluating their own possibilities.

Such a limitation of career potentialities is a prime example of the barriers that BORN FREE seeks to address. It is necessary to help both educators and students recognize the discouraging effect of accepting and overemphasizing "realistic" barriers. The alternative to such a defeatist approach is not a Pollyanna-like blindness to difficulties but rather a concerted effort to understand the barriers in order to develop positive strategies to overcome them.

The data showing that men are seen as more competent gain significance when one considers that the traits that are most highly valued in our society are those of competence and achievement. O'Leary (1974) summarizes a group of studies from 1939 to 1970 with subjects from age eight to adult. She states that "girls as they grow up learn to value boys more and themselves less" (p. 813). In the case of young boys, on the other hand, one would project that boys who do not see themselves as possessing the socially desirable competency traits must feel great pressure and an even stronger self-devaluation than do girls.

College men, when asked to describe ideal personality attributes for men, for women, and for adults in general, saw the ideal man and ideal adult as very similar, while the ideal woman was not described with traits seen as desirable in an ideal adult (Broverman et al., 1972). Similar and even more disturbing findings appeared when mental health professionals rated the characteristics of a healthy, mature, socially competent man, woman, and adult person. Again, male and adult ratings were not significantly different, while the healthy woman was described quite differently from the mature adult (Broverman, Vogel, Broverman, Clarkson, and Rosenkrantz, 1970). As Sherman states, a woman can be "feminine but incompetent" or "competent but masculine" (Sherman, 1976, p. 183). Obviously for women this is a "no win" situation.

Women who are perceived as competent and as having masculine interests may be rated as more attractive in a setting requiring those attributes, however. Spence and Helmrich (in O'Leary, 1974) showed videotapes of a woman in an interview and varied her self-presentation along two dimensions: competence-incompetence and feminine-masculine interests. In this context both males and females rated the women seen as competent, with masculine interests seen as more attractive. The authors interpret these results as demonstrating a cultural bias toward competency and masculine interests. However, it could also be argued that the demands of the situation stimulated the higher ratings of the women displaying competence. An attempt to evaluate individuals in terms of skills and talents for a particular task instead of assigning tasks on the basis of perceived sex-difference stereotypes is the basic concept of role-free career development such as that encouraged by BORN FREE. Sherman (1976) argues, indeed, that the extreme stereotypic feminine description, with its absence of competence attributes, is also negatively associated with a woman's adjustment and performance in traditional and biological female functions as sexual partner, wife, and mother.

In summary, there is considerable evidence that sex-difference stereotypes exist. People believe that men and women systematically differ in a number of psychological attributes. The natural question which arises is: what basis exists for these beliefs about sex differences? Even if one could abolish stereotypes, would men and women show consistent patterns of differences that would be relevant for career choices?

Psychological Sex-Differences Research

At the outset, a caution by Sherman (1971) is well taken. She points out that many reports of sex differences come from studies which are not designed to study such differences and which therefore may not have controls for pertinent variables. Further, in studies involving large numbers of subjects, statistical significance of a finding will not necessarily mean psychological relevance. Most differences between the sexes on psychological traits are small differences between the averages of groups; and the sex distributions of almost all traits overlap considerably. This means that information about average sex differences may be virtually useless in predicting the performance of an individual male or female.

The most comprehensive review of research on psychological sex differences is the 1974 Maccoby and Jacklin text, The Psychology of Sex Differences. In a summary chapter, the authors report only four "fairly well established" sex differences:

> 1) that girls have greater verbal ability than boys...At about age 11, the sexes begin to diverge, with female superiority increasing through high school and possibly beyond...
>
> 2) that boys excel in visual-spatial ability. Male superiority on visual-spatial tasks is fairly consistently found in adolescence and adulthood, but not in childhood...
>
> 3) that boys excel in mathematical ability. The two sexes are similar in their early acquisition of quantitative concepts, and their mastery of arithmetic during the grade-school years. Beginning at about age 12-13 boys' mathematical skills increase faster than girls'...
>
> 4) that males are more aggressive...The sex difference is found as early as social play begins--at age 2 or 2 1/2 (pp. 351-352).

Maccoby and Jacklin state that because of the overlap of ability distribution, no occupation is appropriately reserved for only one sex on the basis of ability patterns. For example, despite the fact that males as a group excel in visual-spatial skills, there are many females with high-level visual-spatial skills who could excel in occupations requiring such abilities, particularly if the requisite early interests and training were available. The same could be said for males in fields emphasizing verbal abilities.

One interesting point which Maccoby and Jacklin (1974) as well as Sherman (1971) raise is the focus of the educational efforts in the schools. Much emphasis is placed on verbal skills; courses in remedial reading may often be taught. Remedial visual-spatial tutoring, on the other hand, is not normally offered. Since the teachers of children are still predominantly female, boys also have more contact with skilled cross-sex models than girls, a factor cited by Maccoby (1972) as important in intellectual development. Sherman suggests that "the whole structure of the educational system, activities, and content may be much more directed toward maximal male achievement than has been realized" (Sherman, 1971, p. 27).

Analysis of such subtle inequities in the structure of schools and colleges is one of the crucial early steps in expanding the career possibilities for males and females through development of individual potentials freed from the limits of sex-defined tasks. The self-study or systems analysis which each educational institution in BORN FREE carried out is designed to uncover such points for possible intervention.

In summary, although research has not revealed many well-established, cross-situational sex differences in ability or psychological traits, there are widespread stereotypes about sex differences held by both sexes which influence their judgments of the potential for or quality of work by men and women. It would be expected that the extent to which an individual might pursue a non-traditional lifestyle or career for her/himself would be influenced by the strength of her/his own stereotypic view of sex differences. One study which approached this problem dealt with 65 single women attending a Catholic women's college (Vogel, 1975). These women answered two questionnaires, one assessing future plans, including educational plans, occupational goals, and number of children desired. The sex-role questionnaire yielded scores on two dimensions, competency and warmth-expressiveness. They found that women with less stereotypic self-concepts (i.e., high on competency, low on warmth-expressiveness) desired significantly fewer children. Women who rated themselves high on competency also were more likely to plan immediate graduate work, while those with non-stereotypic warmth-expressiveness ratings were more likely to plan to combine child rearing and employment. In short, non-stereotypic views of the self in terms of sex-differences are related to more innovative role or lifestyle plans for women.

The issue in sex differences seems to be not so much what differences exist between the sexes, but what differences are believed to exist and how those beliefs influence behavior. Let us turn now to consider a very significant area of belief: the self-concept.

Self-Concept and Self-Esteem

The statement is often made that women do not aspire to higher occupational levels because they lack self-confidence or self-esteem (DiSabatino, 1976). In discussing the relationship between self-concept or self-esteem and career development, however, one difficult issue is that of measurement. There are serious problems in the diversity and validity of instruments used to assess these variables, and therefore when the term self-concept or self-esteem is used it is essential to look carefully at just what is meant.

A very complete literature review and discussion of conceptual and methodological problems in the study of self-concept is that by Wylie (1961). In this review two areas stand out as relevant for our interest in the way in which sex roles may affect self-concept and thereby career development. Wylie has summarized research dealing with the relationship between 1) level of aspiration and 2) sex and role and the self-concept. She found no clear relationship between generalized self-esteem and level of aspiration on laboratory tasks. Her conclusions concerning sex and role were that a) college students hold stereotypic views of males and females; b) the male stereotype is more socially desirable; and c) women may see themselves as less adequate because they do not possess the desirable "male" attributes. The last point, of course, is the critical one and it was not conclusively established by the research Wylie reviewed.

More recently, Maccoby and Jacklin (1974) surveyed male and female differences in self-esteem. They trace the argument often made that women, knowing they belong to a sex that is felt to be lacking in the traits most strongly valued by the society and socialized to share these values, would have lower self-esteem than men. They reviewed 28 studies, with subjects from age three to college age, which attempted to measure generalized self-esteem. They found very few sex differences, and those that did appear favored females more often than males. The interpretation of this finding is puzzling, since, as will be noted later, males and females do have consistent and marked differences in the confidence they feel about their performance on a wide variety of tasks. It appears that generalized self-esteem measures are not particularly helpful in understanding the ways sex-role stereotypes limit options or influence individuals' concepts of themselves. Asking an individual how she/he expects to perform in a specified situation is apparently a more sensitive measure of aspiration or performance expectancies. For some individuals, task performance would be expected to be integral to self-concept, while for others it would not. This would lead logically to a link with sex roles, since--to cite one example--women who see themselves as stereotypically feminine in the terms which Broverman et al. (1972) described presumably would not feel lower general self-esteem as a result of lower performance expectations.

Since generalized self-esteem measures show no sex differences, a more fruitful line of investigation would be to measure the extent to which individuals identify personally with stereotypes of their sex role. The relationship between these sex-role identifications and career choice and/or self-esteem could then be determined. Most studies assume that socialization determines the degree of sex-role identification found among males and females. Angrist (1972) states, "The learning of adult sex-roles...is seen primarily as occupation-directed for males and family-directed for females. While man's straitjacket during socialization is occupational choice and achievement, woman's straitjacket is marriage" (p. 104). These role expectations can be seen to mesh with the traits described as ideal or typical of males and females in the Broverman studies (1972). Competence, a trait valued for males, contributes to occupational success, while warmth, valued for females, contributes to nurturance. These sex-role patterns have clear implications for career choice. Angrist refers to the female career pattern as one characterized by "contingencies." In other words, for the traditional female, occupational choice decisions are contingent on the key social role: marriage. Rossi (1972a) also found that women college graduates believe that few women enter highly demanding medical or scientific fields because of the difficulties in combining such careers with home and child responsibilities.

These findings suggest that one area that may have to be added in a project such as BORN FREE is that of arranging for student exposure to many alternative lifestyles and ways of combining family and job or professional responsibilities for both women and men.

Alper (1974) began with the basic hypothesis that "traditionally role oriented women...are less likely to be achievement oriented (e.g., career oriented) than women whose role orientation is non-traditional" (p. 197). She therefore developed a role-orientation scale and found that women with non-traditional attitudes toward family orientation not only fantasized more achievement but actually achieved higher college grades.

A self-concept that conforms to traditional sex-role stereotypes can therefore be seen to have an inhibiting or at least delaying effect on the occupational development of women. In the case of men, identifying with traditional sex roles would be expected to narrow the individual's view of occupational and/or family roles he could fill, although we know of no data to support this conclusion.

Baruch (1976) poses the contradiction which seems to exist in much of the literature on female self-concept. On the one hand, females who are competent and who achieve are viewed as deviant from female norms and thus anxious (Horner, 1972); on the other hand, in a social milieu that places a high value on achievement and competence, women who see themselves as lacking these traits may suffer low self-esteem. Birnbaum (1975) compared the self-esteem and lifestyle variables of three groups of highly intelligent middle-aged women: homemakers, married career women, and single career women. She found that "the homemakers were the ones with the lowest self-esteem and the lowest sense of personal competence, even including child care and social skills" (p. 398). Homemakers also felt the least attractive, the most conflicted over identity, and the loneliest. Birnbaum (1975) points out that the role functions which these women had been socialized for did not meet their needs over a lifetime and questioned the wisdom of continuing to socialize girls to expect their primary personal fulfillment and self-identity within the family.

This study, plus Rossi's (1972a) national survey of college women, points to the importance of assessing self-esteem and its relation to career options over a long span of time and in the light of situational variables. It is too simple to say, as DiSabatino (1976) does, that women's career choices are basically limited because of their poor self-concepts.

The relationship between self-esteem and the ability to consider role-free options is not yet clear. Bardwick (1971) suggests that persons with lower self-esteem feel more anxiety and are more likely to conform to societally prescribed roles. Some of the other research we have reviewed suggests that, in contrast, assuming societally prescribed roles that have lower social desirability leads to lower self-esteem.

In one study, Baruch (1972) found that women who devalue female competence tend to have non-working mothers, while in a later study (1976) she found that maternal employment was not related to feelings of competence on the part of daughters. The critical variables seemed to be the mother's own sense of competence and the value she placed on cultivating traits such as independence, assertiveness, and achievement in child rearing. Baruch (1976) found that feelings of competence and self-esteem were positively related in the fifth and tenth grade girls who were subjects, and that the relationship of sense of competence to maternal values was stronger for tenth grade girls. She offered an interpretation which suggests that maternal support of sex-role-deviant values becomes salient only in adolescence, when conflicts associated with establishing sexual identity and femininity increase. At this time role models who "both exemplify and value competence" are seen to be especially valuable (p. 48).

The evidence seems to indicate that self-concept clarification is necessary as a post-high-school career development task. One study (Richardson, 1975), based on Super's (1957) self-concept theory of career development, attempted to examine the relationship between self- and role concepts and orientation toward future roles. Future roles were described as characterized by low to high work participation, with homemaking at the low end of the scale. Women who described themselves with adjectives very similar to those they used to describe homemakers were found not to have plans for work participation outside the home. Women who described themselves similarly to their description of career women, however, did not necessarily have high career orientation. Richardson (1975) concluded that the concept of seeking a career congruent with self-concept was not as simple for women as it seemed to be for men in Super's proposed model. Women seeking major careers outside the home are moving in a direction contrary to traditional sex-role norms. Likewise, men seeking careers in non-traditional areas or men concerned with greater family participation at the expense of occupational advancement are bucking the norms. The degree to which the individual seeks to express such non-traditional self-concepts through a career varies as a function of factors we cannot completely specify. One factor seems to be the value placed on the non-traditional role. Richardson (1975) found that women who perceived both themselves and the "ideal woman" as similar to the "career woman" did have stronger work participation plans. Another important factor seems to be adequacy of information or clarity of definition of various role possibilities. Women who had clearly differentiated concepts of career woman and homemaker were more likely to have work plans congruent with their self-image, whether that was as homemaker or career woman.

Over and over, the message in this section seems to be that self-concept and sex-role stereotypes are closely related in rather complex ways. Our society values achievement and competence, but sees them as "masculine." Men who see themselves as competent have higher self-esteem, while men who are not perceived as competent or successful would be expected to be viewed very negatively (Feather & Simon, 1975). Women who see themselves as competent in "male" terms may or may not have high self-esteem, depending upon their situation in life and their susceptibility to conflicts or doubts about their femininity. Conflicts between competence and "femininity" seem most acute at adolescence and during the college years. Role models who value competence in women (and, we would suggest, gentleness, warmth, and other androgynous traits in men) are seen as especially crucial at that time.

Locus of Control

A sense of power or control over one's own fate is often proposed as an important internal variable influencing career development or achievement striving. Rotter (1966), a social learning theorist, proposed a definition of locus of control and devised a scale to measure it which have been very influential in research. Rotter defined locus of control as an internal belief or expectancy which an individual holds about the degree to which she/he can control rewards or success through her/his own behavior. On the Rotter Internal-External "internals" believe that their own behavior influences their rewards, while "externals" believe that their rewards are controlled by fate, chance, luck, or powerful others. Rotter contended that individuals tend to differ in a consistent and predictable way across varied situations in estimating the degree to which they can control their own rewards. (In short, he viewed locus of control as a relatively stable personality characteristic.)

Lefcourt (1966), on the other hand, argued that viewing locus of control as a stable individual response tendency was only one way of interpreting results in the body of literature available. He pointed out that another research focus viewed expectancy for control of rewards as situationally determined. Most of these studies attempted to vary such expectancies by altering the instructions or types of tasks presented.

Both of these research areas (1. measuring locus of control orientation and seeing its relationship to behavior across situations, 2. varying situational factors and seeing an effect on expectancy of control) have relevance for our concern with career motivation. In this section, literature relating to the first approach will be emphasized, while in the section on expectancies in achievement motivation, the second will be given more attention.

Maccoby and Jacklin (1974) surveyed 14 studies contrasting males and females on locus of control. The sexes did not differ consistently in grade school and high school, but during the college years women tended to score in the external direction more often than men. Unfortunately, the studies reviewed did not include subjects over 21 years of age. It is not particularly surprising that women begin reporting less control over their own fates during the college years. This is an age or life stage in which cultural expectations of marriage become pressing for females (Rossi, 1972b). Females are typically seen as chosen by males for marriage rather than as actively structuring their futures by choosing a mate. Therefore, a woman who holds traditional role expectations and sees her future career as a homemaker or mother might very well feel that her fate or the ability to shape her future was out of her control. It would be interesting in this context to examine the relationship between life/career plans and locus of control.

Burlin (1976) found that when eleventh grade females were asked to state an ideal occupation, those with high internal scores on the Rotter scale chose more innovative careers than did those with high external scores. Furthermore, "internals" were less likely than "externals" to modify their ideal choice in a more traditional direction when they were told to list the occupation they thought they would actually follow. According to this study, then, women with more internal orientations would have more confidence that they could move against traditional female career patterns.

An important question occurs immediately: What are the origins of differences in locus of control orientation? Jacklin and Mischel (1973) suggest that sex-role stereotypes of greater male control and power occur even in elementary school textbooks when male characters cause good things to happen by their own actions, while female characters profit from the actions of others or from fortuitous circumstance. Apparently sex-difference stereotypes exist for locus of control as well as for the personality traits discussed earlier. Hochreich (1975) asked male and female college students to fill out Rotter's I-E Scale for themselves, and as a super-masculine or super-feminine individual would. Super-males were seen as being higher in internal control than either super-females or the subjects themselves.

The link between perception of cultural stereotypes of greater male fate control and the aspirations or career plans of individuals is not easy to delineate. In the Hochreich (1975) study the subjects did not describe themselves as similar to the extreme sex-role stereotype. The extent to which their own behavior would be influenced by their perceptions of cultural stereotypes would therefore be expected to vary with a number of factors--the appeal which the stereotype holds for them, their comfort or satisfaction with their own self-concept, the expectations of others, and probably many other factors.

While we cannot predict accurately the relationship between individual feelings of control over rewards and culturally sex-linked stereotypes, we do have some information about the relationship between locus of control and achievement striving. Rotter (1966) predicted firmly that persons high in internal control beliefs would work harder for success or achievement. Early studies indeed showed that "internals" spent more time and had more interest in academic activities and scored higher on achievement tests (Crandall, Katkovsky, & Crandall, 1965; Crandall, Katkovsky, & Preston, 1962; McGhee & Crandall, 1968). One interesting finding for boys suggested that feeling personally responsible for failure was more of a goad toward high grades and achievement test scores than was feeling personally responsible for or in control of success (McGhee & Crandall, 1968). This finding could indicate that males are "pushed by failure" as much as they are "pulled by success." One could speculate further that the push could come from cultural expectations of success and achievement for males.

We can shed more light on the origins and implications of locus of control by examining the data concerning social class and ethnic differences. The situation here is more clear-cut than for sex differences. Many studies show consistently that whites have higher internal control scores than either blacks, Native Americans, or Spanish-speaking groups; affluent children have higher scores than economically disadvantaged children; and older children have higher scores than younger children (Unger, 1976). Unger interprets these data as indicating that locus of control orientation represents the individual's accurate perception of the social reality she/he lives in with its existing power relationships. Predicting the behavior of a person from an environment of poverty, of a black, or perhaps of a woman on the basis of a score on a locus of control scale is less straightforward than Rotter's (1966) theoretical predictions suggested.

Several authors, surveying the data from groups other than relatively affluent white males, point out that the Rotter I-E Scale does not measure a unitary factor (Berkowitz, 1972; Gurin, Gurin, Lao, and Beattie, 1969; Joe, 1971; Sanger & Alker, 1972). At least three kinds of control beliefs have been distinguished consistently: 1) personal control--control over one's future; 2) control ideology--general beliefs about how much control most individuals in a society can exert; and 3) individual versus system blame--attribution of blame for failure to a faulty social system or to individuals.

An individual who "blames the system" for failure will receive a high external score on the scale, but this external score may correlate with more rather than less active striving or attempts to change social structures. Sanger and Alker (1972) note that blacks who see blame as residing in "the system" are often more likely to be involved in social action and to aspire to higher status occupations. Similarly, women who subscribe to system blame aspire to less typical feminine roles and are more likely to seek careers outside the home.

Another finding which is especially interesting in relation to sex-role stereotyping is that college students of both sexes who have strong internal control beliefs describe themselves more positively and with more traits stereotypically seen as characteristic of the opposite sex (Keller, 1974). For example, women with high internal control scores described themselves as intellectual and competitive, while males scoring high on internal control saw themselves as affiliative and conventional.

There is some evidence, then, that persons who believe that they have control over their own environment are also more likely to be flexible and innovative in the life roles they choose and in their view of themselves. They also tend to be more active in striving for achievement, with the exception of individuals who belong to groups which are socially powerless or discriminated against. In this case external control scores may indicate recognition that external barriers such as racial or sexual discrimination exist and do serve to limit available rewards. If members of such groups also have a feeling of personal efficacy, they are more likely to attempt to bring about social change or to work for personal achievement.

There is some evidence that feelings of personal control over rewards can be reflected by various programs. Increases in internal control beliefs are reported following participation in a community action program (Gottesfield & Dozier, 1966), when links between old successes and new goals are explicitely pointed out (Lefcourt & Ladwig, 1965), and when sources of possible reinforcement are described (Lefcourt, 1967). These studies suggest that a feeling of power or control over the environment is not an immutable personality trait and that it can be affected by strategies aimed either at changing the situation or at helping the individual build skills. Building information-seeking and decision-making skills, which is often emphasized as a career management task, would be expected to increase internal control feelings. This effect would be expected since one apparent deficit in persons who believe that they have little control over their rewards is a lack of information about where rewards can be found and how they are qualified to gain them.

Motivational Variables in Achievement

Introduction to Achievement Motivation

As many writers have noted, women do not achieve as much as men in any arena in which "success" is generally measured and valued in the United States, including the professions, politics, and sports (Farmer, 1976; Maccoby and Jacklin, 1974). Does this well-established finding indicate that men and women have different degrees of drive toward "successful competition with standards of excellence," as achievement motivation has been defined (Veroff, McClelland, and Ruhland, 1975, p. 172)? Many attempts have been made to answer this question in the last decade, and we now have a larger literature on achievement motivation in women to supplement the large body of work dealing with men.

One widely accepted formula for achievement motivation proposes that achievement motivation is a function of motive x expectancy x incentive (Atkinson and Feather, 1966). Expectancy--the subjective probability of an outcome--and incentive--the value which attaining the goal would hold--are the two variables in the formula which some have suggested differ systematically in value for men and women (O'Leary, 1974). In other words, men and women may typically see their chances of reaching a given goal as unequal or they may expect different consequences to follow goal attainment. In this case, systematic differences in achievement motivation between men and women would be expected. We will examine some of the research evidence bearing on each of these two variables: expectancy and incentive. The first topic relates to incentive and explores the question of whether there are differential consequences which men and women expect to follow success.

Fear of Success

Matina Horner (1972) caught public attention and seemed to strike a responsive chord in many women when she described a conflict between success and femininity which she called a motive to avoid success, or fear of success. She suggested that, for many highly capable women, success--especially in a masculine context--brought with it fears of social rejection or even doubts about their femininity or normality. A more recent article (Condry and Dyer, 1976) reviews the relatively extensive research literature that has accumulated since Horner's dissertation in 1968 and also examines the relationship between fear of success and sex-role socialization.

Males and females do not differ consistently in fear of success. This was the conclusion reached by Condry and Dyer (1976) after reviewing the literature. Some studies have reported higher fear of success themes in women, but others have shown more in men. One study which is particularly interesting is Hoffman's (1974), since she sought to replicate Horner's earlier work as closely as possible. Hoffman found greater fear of success in males than in females, in direct contrast to Horner's results. The nature of the negative feelings regarding success did differ for the two sexes, however: men tended to question the value of success in general, while women emphasized fears of social rejection following success. This suggests that the level of achievement motivation in itself would not necessarily differ systematically between men and women because of differing fears of success. Indeed, Zuckerman and Wheeler (1975) reviewed the literature and found no consistent relationship between fear of success and various measures of achievement motivation. In a study by Williams and Kind (1976), achievement behaviors were related to women's sex-role attitudes, but not to fear of success. The behaviors they looked at included G.P.A., selection of non-traditional majors, and emphasis of career plans over marriage.

What is fear of success? Even if it means different things for men and women, how does it affect career choice? Several investigators have found more fear of success imagery by females and males when female success is described in a situation seen as largely a male arena--e.g., medical school versus nursing school (Alper, 1974; Condry and Dyer, 1976). This finding, plus the predominance of social rejection fears in women's responses, suggests that individuals may be responding to deviations from sex-role norms rather than to success itself. This interpretation fits with the argument by Stein and Bailey (1973) that women have achievement motivation that is just as high as men's, but that they focus their efforts on achievement in traditionally defined feminine tasks at work or in the home. The crux of the issue here, then, is the identification of some career areas as appropriate only for males and others as appropriate only for females. More women in "male" career areas and more men in "female" areas would reduce the felt deviance and therefore reduce fears of social rejection. Katz (cited in Condry and Dyer, 1976) found just this effect. She described outstanding female success in medical school and in one case added the information that half the medical school students were women. In this situation, both men and women gave responses showing significantly less fear of success.

If fear of success responses are caused by perceived sex-role deviance, then descriptions of males who deviate from "appropriate" sex-role patterns should also inspire high fear of success themes. In one of the few studies of this type, Bishop (cited in Condry and Dyer, 1976) showed to men and women some videotape interviews purportedly of a professional couple who exemplified either a traditional or a role-reversal marriage model. The basic situation established that only one member of the couple could find an academic job and the other, unable to find work in the same location, stayed at home and kept house. In half the interviews the husband was described as the job holder; in the other half, the wife. As expected according to the deviance explanation, many more negative consequences were described for both sexes in the role-reversal situation.

Horner (1972) had described fear of success as a relatively stable trait, possessed largely by women, that led to anxiety about achievement. The research findings, however, are consistent with Condry and Dyer's (1976) interpretation, which sees descriptions of negative consequences occurring as a result of behavior deviant from sex-role norms and as reflections of real social consequences that individuals have experienced and therefore expect. They extend this argument by hypothesizing that women do indeed suffer punishment in the form of social rejection from men as a result of successful competitive behavior. This hypothetical "punishment" seems to say as much about the extreme pressures on the male in U. S. society to succeed and to "win" as it does about role expectations for women. The male fear of success responses which questioned the value of the success ethic (Hoffman, 1974) may be signs that at least some males are more reluctant to accept these constricting sex-role norms.

In summary, evidence from research on the fear of success motive indicates that:

1) it is not best described as a motive--i.e., it is not a stable internal variable that persists across situations.

2) it is not limited to women.

3) it is linked to deviance from sex-role norms.

4) it is not a fear of success per se.

5) for women, it may be a fear of "turning off men" (Sherman, 1976, p. 185).

6) for men, it may express questioning traditional achievement values.

In short, it seems clear that women do not display a motive to avoid success in general or to become anxious when successful. There are many signs, however, that sex-role norms exist which specify appropriate areas for success for both men and women, and that deviating from those norms may have negative social consequences. It would therefore seem desirable to direct attention to possible consequences and coping strategies when either men or women formulate career plans which are innovative in relation to sex-role norms. The significance of role models and support for such "pioneers" is obvious.

Cognitive Variables in Achievement

Expectancies

When a group of males and females are asked to predict how well they will perform on a specified task, women state lower expectancies for their performance than men do (Maccoby and Jacklin, 1974). Maccoby and Jacklin summarize findings from fifteen studies which asked males and females to state their confidence in their performance on a variety of tasks. In eleven of the fifteen studies, men or boys estimated higher performance levels for themselves than did females. The tasks ranged from a marble-dropping game with ten-year-olds to anagram tasks with college students. Although some of the tasks used were ones in which males might have had more experience with the materials or elements of the tasks, such as the marble-dropping game, they also included estimates of school grades and anagrams which would not be susceptible to criticism on this point.

Women's expectancies of success in various tasks reportedly decline in adolescence (Stein and Bailey, 1973). This is the same age period in which the actual achievement of women in mathematics and in visual-spatial abilities declines (Maccoby and Jacklin, 1974). This link of expectation with actual performance is, of course, very important. Stein and Bailey (1973) cite a series of studies which found low to moderate correlations between women's expectancies of success and academic performance for adolescent and college-age groups. A self-fulfilling prophecy pattern can be traced. Lowered estimations of accomplishment lead to lower levels of achievement motivation and to less effort expended in seeking achievement, which in turn makes successful accomplishment less likely and fulfills the original low performance expectation.

Why do females consistently expect to do less well at a broad variety of tasks than males do? Crandall (1975) carried out a series of studies examining sex differences in expectancy in which she devised tests for various causal explanations. One explanation (Feather, 1969) attributed sex differences to non-veridical reports of true expectancies. Females who gave low estimates of their performance levels were thought to be conforming to an expectation of feminine modesty and non-assertiveness. In an attempt to examine this social compliance explanation, Crandall (1975) administered the Children's Social Desirability Scale to boys and girls (aged 7 and 12) who differed in stated task confidence in the usual direction. She found no differences in social desirability scores between the sexes. We would question the value of this method for ruling out conformity with social expectations, however, since when males assert great confidence in their high performance levels they are conforming to social expectations for their sex as much as are girls who make modest predictions.

Crandall (1975) also found that the sexes seem able to use and process feedback about their performance equally well. For example, both sexes change their estimations in the appropriate direction after receiving information about previous performance, but the difference in absolute levels of expectations remains lower for females. This finding held both for a laboratory task involving recall of geometric figures and for predicted college grades. In brief, men and women do not differ significantly in the accuracy of their performance estimations, but do differ in the direction of their error. Males tend to overestimate their performance and women to underestimate theirs (Crandall, 1975; Maccoby and Jacklin, 1974).

This difference in expected success in task performance is related, logically at least, to level of aspiration and occupational selection. Cross (1975) reports that as high school seniors women are significantly less likely than men to believe that they "definitely have the ability" to do college work (p. 348). This is true despite the higher high school grades which the females have earned. Epstein and Bronzaft (1974) found that when career aspirations of male and female college students from two ability levels were compared, men aspired to postgraduate education and to more prestigious careers more often than women, regardless of ability level. Males seemed not to base their aspirations on past records and, in fact, males in the lower ability group aspired to postgraduate degrees more often than females in the higher ability group.

Women may be underrepresented in many prestigious occupations, therefore, not only because of external barriers that limit access, but also because of internal attitudinal barriers which lead women not to aspire to such professions. Barnett (1975) goes further and proposes that women actively avoid high-prestige occupations. She surveyed over 2,500 males and females from ages 9 to 17, and asked each to select from a list of twenty-four occupations the two they would more like to enter and the two they preferred least. The list of occupations had been previously rated for prestige level. At every age level males chose to "enter" more prestigious occupations than did females. In fact, females tended to list the most prestigious occupations as least preferred. At every age level, correlations between prestige and aversion were higher than between prestige and preference for females. Barnett (1975) suggests that women learn early in life not to aspire to highly prestigious occupations. This conclusion may very well be correct, but the causal factors are not clear. There are many possible explanations offered.

One argument suggests that women have lower aspirations because they expect to achieve social status, prestige, and material support vicariously through their husbands (Lipman-Blumen, 1972; Turner, 1964). Others suggest that achievement, especially in highly competitive situations, is threatening to warm relationships with others. Women are viewed as having been socialized to retain a strong need for affiliation, while males are pressed toward independence and competition (Hoffman, 1974). Yet another possibility is that many women want to combine family and career responsibilities. Combining home responsibilities with the high energy and time demands of a highly prestigious occupation might require new family patterns or access to social institutions, which is not generally available.

Finally, choosing an occupation because of its status and prestige may represent a type of achievement motivation which Veroff, McClelland, and Ruhland (1975) label "assertive competence motivation." This type of motive was more characteristic of males than females and stressed attaining autonomy, power over others, and social status. A different type of achievement motivation which measured the persistence and effort expended toward task mastery was just as strong in females as in males. These authors argue that achievement motivation may be best understood by breaking it down into such component factors. This does seem useful in looking at sex differences. It is not inconsistent with our earlier findings that men seek power and prestige. Rossi (1972b) states strongly that in our society men not only lack a choice of whether to work or not, but they are expected to aspire to jobs with as much prestige as their abilities will allow--

to "stretch" themselves. She notes that no one takes into account the fact that a man who does not devote all his energies to a job which maximally taxes his ability might have "energies and time for creative contributions in other social roles, for more involvement in family life, community, politics, or art" (p. 125). Building skills and appreciation for these other realms of participation for men is similarly not stressed in most educational settings.

However, whatever the causal factors, the evidence remains that compared with females, males have higher career aspirations and anticipate more successful performance in a variety of tasks. Since several studies document that people who have higher expectancies actually perform better on achievement tasks (Battle, 1965; Feather, 1966), the differing expectancies of men and women loom as very important.

Attribution of Causes for Success and Failure

Expectancies of success have been described as one of two cognitive variables which significantly affect achievement behavior (Frieze, 1975). The second is causal attribution--the reasons that people assign to explain the cause of behavior or events. Attributions may be made for the behavior of other people or for one's own behavior. If an individual is successful at some task--for instance, passing an exam--that success may be explained in one of a number of ways depending upon how well the person had expected to perform, the level of performance of others taking the test, and his or her past history of success in taking exams. In most studies of attribution in relation to achievement motivation, four attributions are commonly considered. Success or failure may be attributed to ability, luck, effort, and task ease or difficulty (Frieze, 1975). Some investigations force a choice among these possible causes, while others ask for evaluations of the relative importance of each in determining the outcome.

It seems intuitively clear that the cause attributed for success or failure would have implications for an individual's feelings (such as pride or shame) and for the predictions she or he would be willing to make for future similar events. For example, a person who believed that low ability was the cause of failure at a task would be expected to feel greater shame and to have lower expectations for performance in a similar task in the future than would a person who attributed failure to bad luck. Causal attributions are described as differing along two dimensions: 1) whether the cause resides in the individual (internal) or the environment (external) and 2) whether the cause is variable or stable. Frieze (1975, p. 163) presents the following model to illustrate these dimensions:

A Two-Dimensional Model for Classifying
Attributions of Success and Failure

	Source of Cause	
Variability of cause	Internal	External
Stable	Ability or lack of ability	Task ease or task difficulty
Unstable	Effort or lack of effort	Good luck or bad luck

An individual who has been successful at a task will experience maximum security and pride if she/he believes the success was caused by high ability--an internal-stable variable. As mentioned earlier, expectations for future performance vary depending upon the type of attribution made and, conversely, the confirmation or disconfirmation of expectancies can influence attributions. For example, if an individual is very confident and yet fails in a task, she/he will tend to explain the causes of the failure differently from the way in which an individual who expected to fail explains them. Specifically, when unexpected outcomes occur they are likely to be attributed to variable causes such as luck and effort, while expected outcomes are more likely to be explained by stable factors like task difficulty or ability (Feldman-Summers and Kiesler, 1974; Weiner, Frieze, Kukla, Reed, Rest and Rosenbaum, 1971).

There is some evidence that men and women tend to have different patterns of attribution to explain the outcomes of their performance. Jackaway (1974) has described and labeled one pattern she thinks is prominent in women, the Low Expectation Cycle. When an individual expects to do poorly she/he will tend, in this model, to attribute an unexpected success to an unstable cause such as luck and an expected failure to the stable factor of lack of ability. This attribution pattern minimizes the positive aspects of success and maximizes the negative effects of failure. Low expectations are thus perpetuated by explaining outcomes in ways that are consistent with original expectations (Frieze, Fisher, Hanusa, McHugh, and Valle, in press).

This self-derogatory pattern is not limited to women, although the evidence concerning their lower expectations has led to the belief that it would be more common in females. Actually, no consistent pattern of attribution has been found which can be said to characterize males or females as a group. There is some evidence, however, that many women tend to take less responsibility for the outcome of their performance in academic achievement areas than men do. They tend to attribute both success and failure to external causes such as task difficulty or luck and therefore would be expected to feel less pride in success and less shame at failure than males do (Feather and Simon, 1973; Frieze et al., in press). This recalls females' feeling of less power to control their fates that was discussed under locus of control.

The primary conclusion which can be reached at this point, however, is that a number of different attributions have been described in women and men and no one pattern can be specified that differentiates them. This is not surprising, considering the heterogeneity of the two sexes. Obviously there may be many variables more critical than gender in determining attribution patterns. Frieze et al. (in press) suggests that degree of achievement motivation, identification with sex-role stereotypes and various situational factors such as competition may all be expected to influence attribution patterns.

In summary, individuals can be shown to differ in the ways they explain the cause for success or failure on various tasks. The cause that is attributed depends heavily on the expectations which the person had before attempting the task, on relatively stable patterns of attribution which may be characteristic of her or him, and on aspects of the situation.

It seems possible to relate this theory to behavior relevant to career choice or development. Expectations for success and the causes posited for success and failure affect the individual's readiness to attempt actual achievement behaviors. Kukla (1972) reported that men with high achievement motivation attribute their success to high ability and effort, while they perceive their failures as due to lack of effort. Thus failure is attributed to a cause that can change and, further, that is under personal control. Males with low self-esteem and low achievement motivation, on the other hand, tend to attribute failure to lack of ability, a factor that resists change and may be a source of personal shame. Such individuals would then be expected to attempt less challenging tasks and to undervalue the success they achieve, while being unduly discouraged by setbacks.

Attribution patterns, then, can constitute an internal barrier to achievement or self-development in men or women. This barrier would mean that despite similar objective success experiences, individual interpretations of these experiences would differ and that therefore future expectations and efforts based upon the experiences would also vary in a consistent way. Some means of directly confronting and changing the internal inhibitory cognitive patterns would be required to make an impact on the individuals's behavior (Dweck, 1975; Frieze, 1975).

Frieze (1975) points out, however, that internal expectations and attributions are at least partially developed and maintained by cultural values and sex-role stereotypes. Both males and females are hampered by social pressures for men to conform to the typical male-achievement model, while women are expected to be less competent and successful than men. Subscribing to these beliefs will affect both the individual's expectations and attributions concerning her/his own performance and the evaluations and attributions regarding her/his performance which others make.

In the case of attribution patterns, therefore, as in the case of most of the other "internal barriers" which we have discussed, change requires a two-pronged effort. Individual attitudes and beliefs must be addressed at the same time that efforts are made to change environments and the attitudes of others which limit opportunities or reinforce inhibitory patterns of personal responding. Expectations, self-images and attitudes which individuals hold do not develop, nor are they maintained, in isolation from the larger environment.

The importance of including counselors on a developmental team which seeks to expand career options, as BORN FREE has proposed, therefore seems well considered.

This section has examined some of the research and theoretical literature on sex-role stereotyping and the psychological barriers which may inhibit the career development of women and men. We now turn to the external environmental variables which affect career options, primarily occupational and educational opportunities.

PART II: OCCUPATIONAL OPPORTUNITIES AND CAREER INFORMATION PROCESSING

The Realities of Occupational Distribution

One of the areas necessary to review in obtaining an accurate picture of male and female career socialization is the issue of outcomes of male and female career decisions and occupational choices. What happens to men and women in the work force and how are they distributed through different levels or kinds of jobs in the occupational structures? These data provide some indication of the access by men and women to avenues of career development.

Women have been and continue to be less visible in high-paying, high-status occupations. A study done by a task force to the Secretary of Health, Education and Welfare found that occupations for women are closely linked to their homemaking role, as well as to their socialization as men's helpmates (Lewis, 1975). The majority of professional women (70%) are concentrated in a few professions traditionally considered feminine such as teaching, nursing, library science, secretarial work and social work. Most of the people in these fields--70 to 100%--are women. These positions are less well paid and less prestigious than traditionally masculine occupations such as law, medicine, and physics (Valentine, Ellinger and Williams, 1975; Tangri, 1970).

Within the realm of government employees, these same facts hold true. Fewer than 1% of government employees at high grades are women (Herman, 1974). Almquist (1974) indicated that the 1970 census showed small increases in percentages of women in the traditionally male fields of clergy, dentistry, engineering, law and medicine, but fewer than 10% of the practitioners in any of the fields were women.

According to the U.S. Department of Labor, Women's Bureau (1976), 37 million women comprise 40% of the labor force. They range in age from 16 to 70 or more years old. In the last decade, women made up three-fifths of the increase in the civilian labor force. It is also well known that 46% of all women 16 years of age and over are working; that almost 60% are married; that most work for economic reasons; and that there has been an increasing proportion of female heads of household (Hansen, 1975). A woman typically enters the labor force after she has finished her schooling. She then works a few years before she marries and has her first child. An increasing proportion of young married women with and without children are remaining in the labor force. More than four out of ten married women 25 to 35 years of age were workers in March 1975, compared with three out of ten in 1965 and about two out of ten in 1950.

Charts for employed persons in 1975 showed women as tending to be employed in different occupational areas than men. Women are apt to be white-collar workers, but the jobs they hold are usually less skilled and pay less than those of men. Even though 40% of all professional and technical workers are women, these are more likely to be teachers and health workers. Women represent only 20% of managers and administrators. They include 78% of all clerical workers while comprising only 5% of all craft workers.

Women are concentrated in a few occupations, many of which are low paying, low level and dead-end. The Dictionary of Occupational Titles has classified approximately 23,000 different occupations in the United States, and yet one-third of all working women are concentrated in seven of them: retail salesclerk, secretary, household worker, elementary school teacher, bookkeeper, waitress, and nurse (Hansen, 1975). Statistics show that 12% of all wives who work contribute one-half or more of the family income. There still seems to be a classification of "men's jobs" and "women's jobs" which serves to restrict women from entering many higher paying, traditionally male occupations.

Although women have made gains in employment in recent years, there is a widening gap between the earnings of women and men. Women made up only 5% of the workers earning $15,000 or more in 1974, and the gap between the earnings of women and men has nearly doubled in two decades. Taking inflation into account, the gap increased from $1,911 in 1955 to $3,433 in 1974. The two primary factors contributing to the widening gap are: (1) the continued concentration of women in low-skilled, low-paying occupations, and (2) the dynamic rise in women in the labor force resulting in a larger proportion of women in or near the entry level of jobs.

Sex Distribution in Postsecondary Vocational Education

Women make up a little more than half of all vocational education students nationwide. Vocational enrollment data show that 49.5% of the women students were enrolled in homemaking and consumer education not intended to prepare them for employment (Steiger, 1974). Office occupations is the second most popular vocational education program with 30.5% women enrolled nationwide. Home economics and office occupations combined make up 84.1% of female enrollments in vocational education nationwide.

In contrast, the enrollment in trade and industrial programs is 88.3% male and 11.7% female. Nationwide, technical programs are 90.2% male and 9.8% female. In 1971 women were 86.5% of the postsecondary students studying to be keypunch operators, but there were no women reported studying data-processing equipment maintenance. The enrollment in dental hygiene was 99.3% female, while the enrollment in electronics and machine technologies was 99.7% male (Steiger, 1974).

Women attending four-year colleges also tend to restrict themselves to traditionally female occupational areas. Steiger reported a study of 1,646 junior and senior women college students which found only 109 who were studying for careers in fields not traditionally considered female. Only 6.54% of the women made these non-traditional choices: scientist, clinical psychologist, physician, lawyer, government and/or computer worker. The 74.3% of the women students planning on traditional occupations chose teacher, counselor, nurse, librarian, and/or housewife.

Hanson and Noeth (1976) describe a five-year follow-up course of vocational distribution in two-year institutions conducted by the American College Testing program (ACT). Subjects were women and men who began programs at community colleges, technical schools, and similar types of institutions in the fall of 1970. The results of the study were as follows:

1) Regardless of training, members of both sexes tend to be employed in more stereotypic occupations such as clerical and secretarial jobs for females and machine operations, services, and repair jobs for males.

2) There are indications of changing roles of men and women in the future so that fewer females plan to be in clerical and secretarial jobs and fewer males plan to be in machine operation, repairing, and service jobs.

The ACT study supports the idea that students may be rejecting stereotyped views of sex roles because they find them inappropriate to contemporary life (Wasserman, 1973; Hawley, 1972; Gump, 1972). Voss (1975) believes that women today seem to feel more comfortable about expressing a self-achievement orientation than did women in past years.

Yet, as Bem and Bem (1975) remarked:

> There is a temptation for counselors to make two kinds of errors in guidance of young girls: either they treat girls exactly like boys without recognizing that the number of alternatives psychologically open to them must be drastically expanded; or they treat girls like future wives and mothers who must "realistically" plan for the discontinuity, compromise and coordination necessary in a life of multiple roles.

Hanson and Noeth discuss how stereotypes describe men as working to support their families and to contribute to society, as wanting intellectually challenging jobs, and most of all as wanting to succeed and get ahead, whereas women are seen as working for extra money, as wanting new friends and as being more concerned about getting home in time to fix dinner than about work.

Hanson and Noeth describe another national ACT follow-up study done in 1975 that examined the career behavior patterns and work orientations of students five years after they began vocational-technical-transfer programs at community colleges, technical schools, junior colleges, and similar kinds of institutions. The results were as follows:

1) With few exceptions, men and women currently employed in the same general job category derive satisfaction from the same sources (such as men and women employed in management and planning jobs deriving satisfaction from interesting work and responsibility).

2) The differences in sources of satisfaction among occupational categories tend to be greater than the differences between sexes in the same occupational category.

3) A much higher percentage of young adults expect to obtain satisfaction from various sources than actually do.

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4) With only one exception, males and females have similar expectations for the intrinsic rewards of work. A higher percentage of men than women in Education and Social Services expect responsibility to be an important source of satisfaction.

5) Males and females have different expectations in regard to the extrinsic rewards of Pay and Job Security. A smaller percentage of women than men expect Pay to be an important source of satisfaction. Job Security was also less important to women than men (Hanson and Noeth, 1975).

This study showed that the stereotyped myths about why men and women work and the rewards they expect can be refuted. Men and women on the job were found to be more similar than different.

Yet the distribution of women in the occupational world has changed little during the past three decades (Waldman and McEaddy, 1974). The service industry still ranks first in numbers of women employed, with women comprising over 60% of all employees during the past 30 years. The undeniable fact that most women still work at "woman's work" (Allen and Hansen, 1974) further explains that "women comprise a large majority in the areas providing training for relatively low-status, female-dominated occupations: health occupations, consumer homemaking, home economics-gainful, and office occupations." In contrast, men clearly dominate in vocational agriculture, technical education programs, and trade and industrial education, "all occupational areas traditionally considered to be 'male' and those that provide higher status, higher pay, and greater opportunities for advancement "(p. 6).

Career Information Processing

Children are brought up learning sex-role stereotypes from the messages received during childhood. The ways in which they process the messages about what girls and boys do can have an important influence on their later educational-vocational choices and lifestyle options. The elementary and secondary literature reviews have documented the differential ways in which boys and girls access, use, and process information. By the time they reach the college years some important choices and decisions already have been made. Because earlier decisions affect later ones, the range of options by college and vocational students will already have been limited in some ways. Obtaining accurate, comprehensive information about education, occupation and lifestyle options, as well as about labor market trends, is an important and continuing developmental task of the college years. Bem and Bem (1970) stated that "the dominant values of today's students are individuality, self-fulfillment and interpersonal equality with each human being, male or female, black or white, being encouraged to do his[her] own thing" (p. 23). They go on to discuss how America's socialization practices tend to subvert these values. As has been pointed out in earlier pages, boys are encouraged to be aggressive, competitive and independent, while girls are rewarded for being passive and dependent.

Sex-Role Socialization and Androgyny

Sex-typing of occupations occurs early in life and manifests itself in the ways in which women and men make choices which reinforce that sex-typing. Shinar (1975) found that occupations stereotypically associated with high levels of competence, rationality and assertion were viewed as masculine, whereas occupations stereotypically associated with dependency, passivity, nurturance and interpersonal warmth were viewed as feminine. Broverman et al. (1970), Gump (1972) and Maslin (1975) favor the non-stereotypic idea of androgynous sex roles. In androgyny, each sex cultivates the highly valued qualities traditionally limited to the other so that vocational aspirations are not confined to one set of career goals for either sex. Occupational choices can be made by women and men on the basis of interests, abilities and preferences, not merely on the basis of labeling occupations as sex-appropriate. Career characteristics are viewed as human expressions, without reference to the aspirant's sex (Hawley, 1976).

Androgyny eliminates the disadvantages of labeling and placing people in categories such as "traditional and non-traditional" or "masculine or feminine" by freeing men and women to develop qualities traditionally limited to the other sex (Broverman et al., 1970). Thus, women and men need not be limited in the range of career choices suitable to them as they move from one situation to another. Bem (1975) stated, "It is possible for an individual to be both masculine and feminine, both instrumental and expressive, both agentic and communal, depending upon the situational appropriateness of these various modalities" (introductory page). A truly androgynous personality can allow a person to be more balanced, more fully human through the integration of masculine and feminine traits.

In studies done by Bem (1975) to see whether traditional sex roles actually do lead some people to restrict their behavior in accordance with sex-role stereotypes, the following results were found:

1) In studying the avoidance of cross-sex behavior, the masculine man and the feminine woman, when asked to select one activity to perform, selected their own sex's activities and rejected the other sex's activities even though such choices cost them money.

2) When subjects were asked to perform three masculine, three feminine, and three neutral activities and thus had no choice but to perform cross-sex activities, the masculine man and the feminine woman experienced the most discomfort.

3) In studying the "feminine" domain of nurturance, subjects were asked to play with a kitten. The masculine and androgynous subjects were more independent than the feminine subjects.

Bem concludes from her studies that the androgynous male is a liberated companion who is able to deal well with expressive and instrumental behavior. In contrast, the feminine male does well with the expressive domain, and the masculine

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male does well only in the instrumental domain. The feminine woman is uncomfortable performing non-feminine behaviors, tends to be conforming, and chooses the safest behavior when given a choice. In contrast, the masculine woman, like the androgynous woman, was able to function effectively in both the instrumental and the expressive domains.

Among the possible implications of androgyny for BORN FREE are that as men and women give themselves permission to act and react in accordance with a given situation, they will learn to deal with their total personality. Men need no longer stay within the "traditional" roles of provider and breadwinner. Women can also be free to choose the lifestyle options they consider appropriate for them rather than being programmed into particular fields without choices. Women can then learn how to combine such roles as occupation, motherhood and/or marriage if they choose, or to more consciously choose traditional career patterns if these seem more congruent with their interests and abilities. Through more androgynous development, men and women can take control of their lives by choosing career areas in relation to their abilities, interests and aptitudes, not because of their gender.

Role Conflicts as Inhibitors of Choice

Although more women are working today than in previous years, they are not aspiring to as high-level positions as did women 30 years ago (Farmer, 1976). The power of sex-role socialization as well as the role conflict between family and career may be the primary basis for underrepresentation of women in professions (Valentine, 1975; Almquist, 1974; Farmer, 1976). Other inhibitors include the following points:

1) extended periods of time in education and training are needed to prepare for a career;

2) the age at which most women get married and have children interferes with the preparation time; and

3) women's discontinuous work histories prevent them from being involved in high-level occupations.

A woman is taught early in life that her primary goal is to marry and have children (Parlius, 1975; Wasserman, 1973; Farmer, 1976). These goals are often seen as the only truly fulfilling expression of womanhood. She must sacrifice her own personal development in order to secure a husband, promote his career, have children and keep up a home. Broverman et al. (1972) feel that in order for a woman to earn social approval, she must effectively function in the feminine role of child bearer and rearer, while a woman choosing an alternate role, such as employment outside the home, is less likely to have children and receive social approval.

A 1974 study by Herman found that education majors seek outside approval (a traditional female characteristic) in occupational choice. By contrast, nontraditional women enter occupations in spite of societal approval rather than because of it. Such women do not, however, consider themselves as being masculine or as rejecting the core female roles of wife and mother. Rather, they expect to postpone marriage and have fewer children than more traditional women. Role-innovative women have a greater commitment to their careers than women going into traditionally feminine professions (Tangri, 1972).

Role conflicts also are related to sex-typing of occupations. A woman experiences less strain entering an occupation sex-typed as female than a woman who enters an occupation sex-typed as male. A woman entering a male profession "...is likely to find that only a few of her classmates are women and that she may more easily resolve her role conflict by changing majors rather than by persevering" (Leonard, Hansen, and Knefelkamp, 1974, p. 69). Feminine occupations requiring nurturance and empathy are considered more compatible with and an extension of family life (Valentine, 1975; Almquist, 1974). Fields such as teaching and nursing have been thought to permit intermittent involvement as well as provide job security.

A woman can no longer enter traditionally feminine fields for security reasons. Teaching, nursing, or being a librarian no longer assure a woman of always being able to find a job due to the current oversupply of these workers in the labor market. A woman who can re-enter such fields after a 10-year lapse will often find her skills obsolete. Nor do "women's fields" permit working shorter hours or having flexible, convenient schedules. Although flexible time and innovative work schedules are being tried in several places, the typical work week is built around a 40-hour week with part-time and temporary jobs often viewed as unusual (Angrist, 1972).

Dickerson's (1974) study of female college students found that young women develop self-concepts, achievement motivation and aspirations in keeping with role expectations rather than in keeping with their abilities. Women have not been expected to have strong academic-vocational aspirations because these are not crucial to the cultural role outlined for them. It is assumed that men will choose an occupation, marry and have a family without question of role conflict. It is assumed a man will not have any difficulty combining paid work and a family. The same assumptions do not hold for women with career aspirations. A woman choosing to remain single is thought to be unusual, while women wanting to combine career and marriage face pressure from families, from educational institutions, and often from their future partners (Leonard et al., 1974).

Importance of Role Models

Women students often show a lack of definiteness and realism about expectations for adult roles. Through occupational role models, women can gain a broader exposure to the nature of work roles and can begin to see themselves as capable of performing well in jobs often thought unsuitable for women. Sheehy (1974) believes it is easier to identify with a person rather than an idea. Almquist (1974) studied 110 undergraduate women to determine their adult lifestyle aspirations. Two-thirds of the women choosing masculine occupations already knew a woman employed in the occupation chosen. Almquist found that role models, whether male or female, served to stimulate students' interests in particular occupational fields. The role-modeling process goes beyond learning to be a teacher, librarian or doctor. It also involves learning to play wife, mother, and worker as well as other roles (Angrist, 1972). The entire lifestyle of a person, not just the occupational role, can provide a model here.

The myth that certain roles are meant for men and others for women can be dispelled through acquaintance with role models. As women and men see each other working in all areas, caring for children and/or pursuing leisure activities in accordance with interests, not role expectations, the element of human development arises. Mentors, as role models, can play an important part in career development of both women and men. Sheehy (1974) states, "For a man in his twenties, the mentor, a guide who regards him as a younger adult but not as a boy or son, supports the young man's dream and helps him put it into effect in the world." The mentor is a non-parental career role model. For men, the mentor and the loved one are usually two different people.

On the other hand, Sheehy (1974) believes fewer mentors are available for women. She states that "Roughly eighty percent of the judgment jobs are hidden in the unpublished job market and reached only through the grapevine or the mentor system" (p. 132). Most of the women Sheehy studied, who gained recognition in their careers, were nurtured at some point by a mentor. Sheehy cites a 1970 study by Hennig, who reported the same findings with 25 high-level women executives. All had attached strongly in their early careers to a male employer who had helped these women to believe in their abilities.

Influence of Mothers

Parents, especially mothers, also play an important part in their daughters' career decisions and aspirations. The role model (Wasserman, 1973; Vogel, 1970) and type of maternal model available are related to the occupational choices of women and the motivations for these choices. Tangri's (1972) study involving 200 college women seniors found that the best predictors of the degree to which a daughter's chosen occupation is male dominated are whether her mother is presently working and the innovativeness of the mother's occupation. Working mothers facilitate liberalized perceptions of female roles for male and female children and serve as non-traditional sex-role models (Etaugh, 1975; Valentine, 1975).

The mother's employment history and status also serve to increase the likelihood of a daughter's expecting to combine marriage and an occupation and to make it more likely that she will pursue an occupational career. Baruch's (1974) study of 130 undergraduate female psychology students tested the hypothesis that mothers in the traditional, feminine role pattern may not be viewed as role models by their daughters due to lack of status, power and satisfaction in that role. Mothers who were preferred as role models displayed the ability to enjoy a career and a family. Mothers who appeared dissatisfied with their own role pattern were not chosen as role models. Daughters identified most with their mothers' role status and role satisfaction.

Sex-role perceptions vary as a function of maternal employment. Attitudes women develop depend on the father's response to the mother's employment and whether he shares the domestic chores (Almquist, 1974; Broverman et al., 1972). A related study by Broverman, Broverman, Clarkson, and Rosenkrantz (Vogel et al., 1970) of 120 undergraduate men and women found that sex-role perceptions are affected by parental role behaviors which children are exposed to. Vogel et al. concluded that men and women with employed mothers felt there were smaller differences between masculine and feminine roles than did men and women with homemaker mothers.

Etaugh's (1975) study of male and female university students showed similar results, although she put her emphasis on attitudes toward homemaking. Etaugh concluded that children of women who were dissatisfied with homemaking held more liberal views about sex roles than did children of women who enjoyed homemaking. For further discussion of parental influences, see the BORN FREE literature reviews at both the elementary and secondary levels.

Influences of Men

Another factor in a woman's career decision making is the influence of men on such decisions. Hawley (1972) studied 136 undergraduate women students to see what part men's views played in their occupational choice. She found that women choose occupations consistent with their own views of the model of femininity held by the significant men in their lives. Women preparing for non-traditional, male-dominated fields such as math or science thought men made little differentiation in male-female work roles and other related behaviors and attitudes. Women preparing for traditionally feminine teaching careers thought men divided work, behavior and attitudes into male and female categories.

Although more information and opportunities are available to women today, many of yesterday's attitudes still exist. A wife's career is frequently seen as being secondary to her husband's, with decisions made benefiting his career rather than hers. Some women also fear a situation where they would earn more than their husband (Almquist, 1974). Whereas a woman will often take her potential mate into consideration when selecting career goals, a man usually chooses his career independently of his mate. Perhaps in the future both women and men will consider the interrelatedness of roles when they make choices about work, family, leisure, and community.

Research is needed to assess men's sex-role attitudes and how these might be changing. It is becoming increasingly important for women and men to approach each other in terms of real needs and attitudes rather than in terms of stereotypes. As men and women find other words besides masculine and feminine to refer to and label each other's occupations, new directions/roles can be explored.

PART III: EDUCATIONAL OPPORTUNITIES AND SEX-ROLE STEREOTYPING

Institutional Practices

Although in recent years many legal and educational barriers to female achievement have been removed, there still remain some institutional practices which serve as special deterrents to women and men students in education. The enrollment pattern is a consistent one: the more advanced the educational program, the fewer women there are. More females than males complete high school; fewer females than males enter college, and fewer graduate. And fewer females earn more advanced degrees. A major theme of the Carnegie study on women in higher education (Carnegie Commission on Higher Education, 1973) is that "a substantial proportion of the intellectual talent of women has been and is being lost to society as a result of cultural circumstances; though women and men have equal intellectual abilities; and the largest unused supply of superior intelligence is found among women" (p. 1). Another major theme in the Carnegie Report is that women in higher education have been and still often are disadvantaged. Documentation is available to support the fact that women have been discriminated against in recent years, even at the point of entry at the undergraduate level.

In addition to Westervelt's comprehensive review (1975), and the Carnegie report, another excellent treatment of the factors which inhibit or facilitate educational access for women is Astin's study, which she summarized in 1976.

Admissions Practices

McBee and Suddick (1974) cite a large southeastern public university, one of several using a freshmen admissions policy which required a higher predictive score for females than males, in order to maintain a quota system. Walster, Cleary and Clifford (1971) engaged in a study from the University of Wisconsin which demonstrated that it is harder for women to get admitted to undergraduate colleges. Using a sample of 240 randomly selected colleges, these researchers sent identical applications for admission, except that sex and the ability level of the applicant were varied. Half of the time the applicant claimed to be a male; half of the time a female. Though the bogus candidates were all of fairly high caliber, one-third were described as high, one-third as average, and one-third as low in ability. The findings showed that at the lower levels women were significantly discriminated against; and the authors conclude, in agreement with other observers of this phenomenon, that only a truly exceptional woman can hope to transcend sexual stereotypes and to be judged on an objective basis.

Inflexible Programs

Since most college programs were originally designed to meet the needs of young males who had few, if any, home or parental responsibilities, they are not often tailored to meet the needs of any of the so-called "non-traditional" students: women, minorities, older students, etc. Opportunities to pursue a degree in a "non-traditional" manner or at a "non-traditional" pace are often especially important to women (Dunkle and Sandler, 1974).

Financial Aid

The availability of financial aid is another barrier which has affected the choices of women in postsecondary education. Westervelt (1975), in a very important publication on the barriers to women in secondary education, summarizes the most frequent allegations against institutional practices: (1) making scholarships, fellowships, and loans more available to men than to women; (2) restricting financial aid to full-time students only; (3) withholding financial aid from women who are married, pregnant, or mothers; (4) failing to provide an adequate variety of deferred-payment plans; (5) failing to provide financial aid for child care and other expenses; (6) limiting employment opportunities for women students; and (7) imposing different cost bases or charges for male and female students, or for part-time and full-time students (p. 12). Westervelt's comprehensive summary goes on to cite evidence that women do get less than their share of available money, and that other practices which seem on the surface to be equitable do in fact affect women inequitably.

An example of this disguised discrimination is found in a recent study by Hochman and Nietfeld (1977), who investigated the pattern of financing graduate education for female and male Michigan State University graduate students. They found that there was a disparity between male and female income from employment, savings, and loans; but that it was not sex alone, but rather sex in combination with student status, age, and degree status that accounted for the receipt difference. For instance, part-time status, which was related to sex, was also related to receipt of assistantships. Women had substantially fewer assistantships, and they also comprised more of the part-time students; and university policy limits assistantships to full-time students.

Stivers (1974) notes that it is illegal to discriminate against women who apply for educational financing under the Federal loan programs (National Direct Student Loan Program, the Guaranteed Student Loan Program, and the Health Professions Student Assistance Program), but that much data about the awarding of such loans by sex and by part-time status are not available. Stivers makes the point that "loans are especially crucial to women in financing their schooling since, as compared with men, they have fewer other resources. For example, ROTC scholarships, athletic scholarships, and GI Bill benefits are available, with few exceptions, only to men. The earning power of women is so much less than that of men that women are less able to contribute to their own support while in school" (p. 4).

Haven and Horch (1972), who reported on an Educational Testing Service study of unmarried full-time sophomores, found that in spite of the equal financial need of men and women in the survey, more lucrative campus jobs and higher financial awards were assigned to men than to women.

Enrollment Patterns

Despite the few sex differences which can be supported, sex-role ideology continues to affect the career development of women. Feldman (1974), among others, has noted the general underrepresentation of women in institutions of higher education at both the graduate and faculty levels. In this Carnegie Commission supported study, Feldman cites studies which charge discrimination in the awarding of financial aid to students and unfair treatment of female faculty in regard to duties, salaries, and promotions (p. 9).

Feldman's study involved the masculine-feminine image of 45 academic disciplines. Undergraduates were asked to rate each field on a seven-point semantic differential rating scale on the polar-type dimensions of masculine versus feminine. Feldman found that undergraduate students uphold the typical stereotypes: engineering, physics, medicine, agriculture, chemistry, and forestry, for example, were regarded as masculine disciplines; in contrast, art, English, and nursing were regarded as feminine disciplines. Then, using 1968-1969 enrollment figures in all of the 45 disciplines, Feldman found that more women students were in disciplines stereotyped as feminine and more men in disciplines stereotyped as masculine. In other words, fields are viewed as being masculine or feminine; undergraduates are aware of this distinction; and in fact these perceptions reflect reality and show great awareness of what men and women "ought" to be. Students recognize that defining career choices according to sex stereotypes is both expected and less difficult.

There are signs of change in that pattern, however. The proportion of women enrolled in professional schools for such fields as law, medicine, architecture, and engineering has risen steadily since 1960. According to the annual survey of entering college students conducted by UCLA and the American Council on Education, over the last decade the proportion of first-year college women planning to enter "male" fields (such as business, medicine, law and engineering) has nearly tripled. "Thus, for every three men planning to enter these four fields, there is now one woman. Ten years ago, there was one woman for every eight men planning careers in these fields" (On Campus with Women, April 1976).

That same issue of On Campus with Women cites more statistics, originating from sources such as the following. The Engineering Manpower Commission reported that in 1974-1975 the number of women enrolled in freshman engineering classes rose by 66%; the Association of American Medical Colleges reported that 22% of all entering-class places in medical schools were filled by women in 1974-1975, with women students accounting for 18% of medical students enrolled at all levels; and the Association of Theological Schools reported that the enrollment of women in theological seminaries nearly doubled from 1972 to 1974.

The October 1976 issue of On Campus with Women noted that the

> National Science Foundation reports that women were 24% of the full-time students enrolled in graduate science programs in 1974, a 13% increase over 1973. The number of men enrolled in graduate science programs increased by only 3% during the same period.

Here are some other encouraging statistics: In 1970 women represented 44.7% of the freshman class in institutions of higher learning, while in 1973 they represented 48.1%. In 1970 women comprised 40.2% of the students beginning masters or doctoral programs, while in 1973 they represented 44.5% (U.S. Office of Education, National Center for Educational Statistics).

In 1970, first-year law students were 10.2% women; in 1975, 26.8% (Annual Review of Legal Education, 1975). In 1970, first-year medical students were 11.1% women, in 1975, 23.8% were women (Journal of Medical Education, 1976).

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At the University of Minnesota, significant gains in the enrollment of women in several of the University's units have been noted: From 1971 to 1976,
enrollment of women students in the University of Minnesota's College of Agriculture increased from 12% to 32%; in Business Administration, from 5% to 23%; in Forestry, from 3% to 18%; in Law, from 9% to 32%; in the Medical School from 9% to 16%; in the School of Public Health, from 29% to 49%; in Veterinary Medicine from 13% to 31%; and in the University of Minnesota's two-year technical schools, from 21% to 40% in one, and from 25% to 49% in the other (Brief, 1976).

The trend toward increased female enrollment may indeed continue; on October 13, 1976, President Ford signed into law the Education Amendments of 1972 which affect sex discrimination in education and Title IX, including provisions which (1) spell out certain due-process procedures for enforcing Federal antidiscrimination laws, (2) clearly forbid sex-role-related admissions quotas, and (3) require specific actions aimed at ending sex stereotyping and discrimination in vocational education. However, many of the vocational education programs and courses in schools have been (and still are) sex segregated. (See previous section on Sex Distribution in Postsecondary Vocational Education.) Dunkle and Sandler (1974) list several sources which support that assertion and note that those programs which have been sex segregated "will come under strong legal (as well as moral) pressure to open their doors and programs to women and men on an equal basis. Indeed, because of both constitutional challenges and Title IX, a number of schools have already changed their policies and programs" (p. 30).

However, there are many other factors besides those clearly illegal adminissions and financial aid practices which have limited the career options of men and women, particularly women. These obvious yet difficult to change demonstrations of discrimination include counseling, which is clearly discriminatory or at least mildly sexist; the dearth of role models in faculty and administrative and other professional ranks; sex-biased textbooks; faculty advising, which is blatantly discouraging or condescending; lack of mentors, either male or female; inaccurate, sexist, inadequate or obsolete vocational information; sexist attitudes demonstrated in classrooms and laboratories by faculty and peers; inflexibility of requirements--curriculum, full-time enrollment, access to libraries; the behavior of placement counselors and campus recruiters who discourage innovative choices; and the lack of opportunity for "hands on" work or internship experiences.

Faculty Attitudes

American women students who aspire to non-traditional careers must frequently overcome tremendous obstacles. For instance, although faculty attitudes toward students and the availability of faculty to students seem to be important determinants of student satisfaction and performance (Holmstrom and Holmstrom, 1974), female students often are excluded from the collegial apprentice relationships to faculty; and sometimes there is antagonism, either from faculty or fellow students (Follett, Hendel and Klohs, 1975, pp. 42, 74). Davis (1973), for example, stated that 80% of her sample of women in a college of science and technology mentioned barriers or difficult situations they had to cope with as women in a predominantly male college. A study of men and women microbiologists (Kashet, Robbins, Leive, and Huang, 1974) indicated that men are urged to continue their studies, but that women are more likely to be encouraged to stop at the lower levels and receive discouragement if they pursue an advanced degree. Blatant evidence of discrimination has been found in the classroom, even at the college level. For example, students at Western Michigan University have cited the following examples of teacher comments which discriminate against women: A biology teacher during a class field trip passed a junk-car lot and said, "Well, there's women's biggest contribution to the world." Another professor told a woman student, "Don't worry, with your body, you'll get whatever you want," and still another professor remarked, "Now that there are perma-press shirts, dishwashers and garbage disposals, etc., women aren't needed" (cited in Dunkle and Sandler, 1974, p. 27).

A study of Stanford University graduating seniors of 1965 and 1972 considered the educational and occupational plans of men and women graduates, their sex-role expectations and how the Stanford University environment influenced their choices. One-quarter of the 380 graduating seniors thought that they had been discouraged from an academic or occupational goal by a "member of the Stanford community," because of their sex. The most explicit discouragement came from professors. More subtle environmental cues, such as negative comments in classes, discouragement from peers and the fact that female professors were both few in number and had lower respect and status, were also sources of discouragement (Committee on the Education and Employment of Women, 1972).

Davis (1973), in reporting the experiences of women in a technical college of a large state university, notes that being the only female in a class or coping with the unfriendly attitudes of male students and instructors had been difficult barriers to remaining in that professional program.

Dickerson (1974) notes that the most discouraging attitude that female students may encounter in academe is a "climate of unexpectation." Faculty and administration may appear to question the seriousness of the woman student as to her academic pursuits and may reflect this in their dealings with female students. She cites other researchers who report that female students often feel a lack of support and encouragement from their departments.

Dickerson's study was based on the idea that one person's expectations for another's behavior may serve as a self-fulfilling prophesy. She administered questionnaires to 379 women students to test her hypothesis that there is a positive relationship between college women's academic vocational aspirations for themselves and their perceptions of their faculty's and administration's expectations for them as women. The results showed that students with higher aspirations are more apt to be those who feel their faculty and administration have high expectations for them. It was also clear that female students, regardless of how high or low their own expressed aspirations are, perceived that their faculty and administration expect less of them than they do of themselves. In other words, they perceive limited support and encouragement from faculty.

By contrast, Christensen and Sedlacek (1974) administered a Faculty Attitude Scale to 300 faculty members at a state university and found that faculty were generally more positive toward blacks and females, particularly females, than toward undergraduates in general. Females were seen as the best, the hardest working, and the most creative students. The faculty which responded to this questionnaire were 80% male and 16% female.

As a result of her study of Radcliffe undergraduate experience between 1962 and 1966, Zinberg (1974) found that "many of the successful young women report the active interest of a faculty member in their future work. Someone has taken them seriously...One can safely say that for most male faculty members the young woman has to evince greater seriousness of purpose than a man to be sponsored" (p. 135).

Zinberg notes with dismay that few "successful" women scientists have been active in promoting the careers of other women. "Although they might encourage undergraduates, they remain aloof from would-be protégées, perferring the specialness that accrues from being the only woman among many men" (Zinberg, 1974, p. 135).

Female Role Models

Several authors have claimed that there is no positive support built into the educational system and have suggested that the lack of women on faculties might be a significant source of stress for women students. Husbands (1972) points out that since most women in colleges and universities are at the bottom of the academic hierarchy, graduate students are unlikely to come into contact with women who are tenured members of the faculty. This was true in a survey at the University of Chicago in 1969, which Husbands refers to.

The absence of female role models among teachers and faculty has been remarked on at length (On Campus with Women, all issues; Westervelt, 1975).

> Proportions of women faculty are low in higher education as a whole, and extremely low or almost nonexistent in some fields, as sex differences in earned doctorates would suggest. Female teachers are almost never found in vocational and technical training programs for "male" occupations, since such a low proportion of women even become students in such programs. On the other hand, observations suggest that teachers in training programs for "women's" occupations are predominantly, but not exclusively female (Westervelt, 1975, p. 36).

According to a 1976 publication of the American Association of University Professors, "little sign of progress can be found" regarding the equalization of the status of men and women faculty members. Data from the report show that women have actually lost ground in the profession. For instance, the percentage of women faculty members decreased from 1974-1975 to 1975-1976; the proportion of women who were professors or associate professors in 1975-1976 was slightly less than in 1974-1975; the disparity in pay increased between women and men faculty--in 1975-1976 women received an average of 5.2% less than men of the same rank, compared to 4.5%, the disparity in 1974-1975. There was, however, no increase in the proportion of women in the entrance ranks of faculties (American Association of University Professors, 1976).

Tidball (1974) looked at women professionals judged successful ("successful" meant being included in Who's Who of American Women, 1966-1971) and concluded that the effect of role models during the college years is significant. She found that married graduates of women's colleges, where both peer group and faculty provide a high proportion of role models, are almost three times as likely to become successful in careers as married women graduates of coeducational colleges. Tidball suggests that there are educational environments which encourage potential achievers and educational environments which do not.

Almquist and Angrist's (1971) longitudinal study of 110 women college students showed that career-salient women were likely to indicate professors and persons in the occupation as the most important sources of personal influence on their occupational choice.

Respondents to the questionnaire in the Stanford University study referred to earlier considered that freshman advisers are the most important professional role models. When the academic department was seen as performing a valuable function in influencing career choices, it was usually by providing opportunity for practical experiences in the student's chosen field. The results of this study also revealed that the non-scientific male-dominated fields attract the fewest women and also have the greatest female attrition. These fields include economics, philosophy, political science, architecture, and urban design (Committee on the Education and Employment of Women, 1972).

It is conceivable that the woman student, observing the underrepresentation of women in certain careers, including those of high academic status, decides that certain life choices--for instance, for the higher intellectual life--are "for men only." Husbands (1972) believes, however, that male teachers can also have an important part in raising the educational and career aspirations of women, and remarks, "The protégé or sponsorship system which flourishes in graduate school certainly can work across sex lines" (p. 268). But she points out that both females and males often rely on sex-specific behaviors--a woman student may deprecate her work; a male professor may be more chivalrous than intellectually demanding. So Husbands strongly advocates the increase of women teachers in higher education, not only to act as role models, but "also to provide more experiences of demand and challenge" (p. 268).

Considerable additional documentation regarding the importance of role models in higher education can be found in Westervelt (1975) and the Carnegie Commission Report (1973) on opportunities for women in higher education, as well as other sources. The Carnegie Commission decided that the issue was salient enough to focus one of its recommendations on it:

> We favor at the faculty level: special efforts to recruit women into the pool from which appointees are selected, and special consideration, in making appointments, to the potential contributions of women to departmental and college excellence in their roles as models and as special sources of sensitivity to the problems and aspirations of women students (p. 4).

Counselor Bias

Schlossberg and Pietrofesa (1973) have summarized well the effects of counselor sex bias on the career choices of women. They note a previous study of theirs which showed that both women and men practicum students showed negative bias toward a female client who was considering entering a non-traditional occupational field. The psychological services provided in institutions of higher education often reinforce sex-role stereotypes, as Mishler (1975) found in her review of the literature.

> In general, both male and female counselors tend to be biased and to reinforce the cultural dictum that women pursue traditionally feminine goals. In addition, female counselors are more acceptant of clients' deviancies from societal expectations. Only the finding of female counselors' perceptions of further counseling need of clients with deviate goals is not validated; however, neither is it contraindicated (p. 125).

One of the studies she was referring to looked at the sex-stereotyping behavior of high school counselors (Thomas and Stewart, 1971). In their study of 62 male and female counselors, Thomas and Stewart found that counselors of both sexes perceive "deviate" career goals as less appropriate than "conforming" goals for their female clients and tend to perceive clients with "deviate" goals as more in need of further counseling. Since greater numbers of college women are now considering "deviate" career goals (those of traditionally male fields), college psychological services need to explore such sex-stereotyped attitudes of their staffs.

Such a survey of college counselors was done by Abramowitz, Weitz, Schwartz, Amira, Gomes and Abramowitz (1975). Twenty-two college counselors rated the degree of maladjustment suggested by psychovocational profiles of male-or-female-identified medical school aspirants. The counselors had been classified as either traditional or non-traditional by the use of a test. The results of this study showed that traditional counselors imputed greater maladjustment to the female students, but not to the identically described males.

In an attempt to confirm some of the findings of Broverman et al. (1970), Maslin and Davis (1975) investigated the mental health standards of counselors-in-training. The female counselors-in-training held a fairly uniform standard for healthy males, females, and adults. However, the male counselors-in-training, while subscribing to a common standard for healthy males and adults, held another, more stereotypically conforming feminine standard for healthy females.

In a study designed to discover whether male or female clients are viewed and treated differently, counselor ratings of 565 female and 645 male clients at a university counseling center were examined (Collins and Sedlacek, 1974). The results demonstrated systematic differences in the way counselors perceive male and female clients. Males are more likely to be rated as having vocational-educational problems than are females, while females more often are rated as having emotional-social problems. The authors of this study note that these results could reflect "real" differences in male and female clients, or could be a reflection of counselors' sexual stereotypes, "or the differences might suggest some interaction of the two." (p. 131).

A recent study by Ginn (1975) showed also that students themselves had differential perceptions of the types of problems men and women students would want to discuss with a counselor. One hundred male and one hundred female undergraduates estimated the types of problems males and females would present at a counseling center. Of 75 problems on a problem checklist, 35 were seen as being more typically female, whereas only 16 were seen as being more typically male. Of the 16 "male" problems, eight were vocational-educational problems, while none of the female problems were vocational-educational. Comparing these results with the problems presented by actual clients at a university counseling center, Ginn found that of the 75 problems on the checklist, sex differences were found for only three problems. In other words, students themselves, despite their sex, tend to expect men students, but not women students, to want to discuss issues relating to educational and vocational choices. Such peer (un)expectation must place considerable strain on women students.

Jones (1973), in a study of the career aspirations of undergraduate women and minorities, found that lack of counselor encouragement was a significant influence in inhibiting women from pursuing male-dominated professional careers and curricula. Other significant inhibitors were lack of encouragement from significant others, lack of confidence in their natural ability to succeed in certain fields, stereotyped professions, financial strain, and a general lack of knowledge about careers.

In a study of the traditional and innovative career plans of women from two-year colleges, Moore and Veres (1976) asked 852 female students from several types of two-year colleges about their perceptions of counseling. Approximately one-third of both the women aspiring to traditional careers and those aspiring to non-traditional or "innovative" careers reported that they had never met with a college counselor. Over one-third of both groups indicated they had no opinion on whether counselors could be helpful with career and educational decisions. The "innovators" reported slightly more difficulties in the area of personal problems as well as with vocational choice, with college rules and regulations, and with college services. Moore and Veres recommend that counselors need to discover the regulations, curriculum requirements, and financial and personal restraints that hinder innovative women, and find possible solutions. And, because "the employment outlook for many of the traditional female occupations is discouraging," counselors can help the more traditional women recognize that skills acquired in preparing for one goal are transferable to others as well. They also encourage counselors to give greater attention to the life-planning and/or life-assessment needs of women. This is particularly important for women who plan dual roles in career and family, to help them deal more effectively with career-family exigencies.

Changing roles of men and women have heightened the need for some well-trained, aware counselors who can help men and women obtain the information they need about themselves and options and to develop career plans congruent with their values, abilities, and lifestyle preferences.

More women are now expressing their interest in expanding their lifestyle options, and increasing numbers of women and men are developing patterns of equal partnerships and shared roles. Piel (1976) states in an APGA paper "that the career development of women appeared confusing may result from failing to consider their roles in light of their unique and different roles in society" (p. 2). How does a non-traditional career woman, having chosen an occupation considered masculine in society's terms, deal with her "other" roles? Also, how does she deal with the lack of support for her choices? How do men deal with women who also want multiple roles? How do they deal with their own male socialization? Counselors must become more skilled in discussing issues involved in the career decision process for women, as well as men, and be sensitive to ways in which the issues differ from those which affect men. Counselors need to be able to deal with the occupational aspirations of women as well as the desire on the part of many to combine career and marriage. They need to be able to explore the impact of the expanding roles of women on the roles of men.

One alternative is for counselors to use an androgynous career model to assist women clients in expanding their options. A woman can learn that a career in homemaking can be considered as personally rewarding and socially contributive as a career in science if the choice has been consciously made and not programmed. Counselors can help female clients become aware of a variety of lifestyles and career patterns, of which gainful employment is only one part (Angrist, 1972; Hansen, 1975; Hawley, 1972). Women can then be encouraged to fulfill their human potential by learning how to prepare for multiple and changing roles in society, rather than being forced to make a choice between bearing children or choosing an occupation (Wasserman, 1973). The sex-role dilemmas girls experience in high school still exist during the postsecondary years and often re-emerge even later. Angrist (1972) feels, "Counselors can expose these dilemmas and help students surmount or alter such obstacles; they can evoke career pursuit as a special form of achievement" (p. 296).

Counselors need to be sensitive to what is happening to women and need to help them sort through the confusion and often conflict resulting from changing values and lifestyles. Hawley (1972) states, "Whether the client finally chooses a traditionally sanctioned lifestyle or one that fits the radical model of the women's liberation movement, it is important that she have the opportunity to examine consciously many models of femininity" (p. 309). In other words, counselors need to be able to deal with a variety of lifestyle considerations/choices when counseling women. As a woman is able to look at different lifestyle options, the process of career selection also expands.

Counselors need to become aware of their own biases and those of the materials they use in dealing with women (Notestine, 1975). Leonard et al. (1974) state that "Counselors are affected by pervasive conscious and non-conscious sexism in education" (p. 69). Counselors must be encouraged to hold an open, knowledgeable view of occupational choices free of sex-role stereotypes so they can help their female clients select occupations suitable for ther interests and skills (Notestine, 1975; Medvene, 1974). Because males dominate a female college student's environment as professors and classmates, she needs guidance in seeking new options and opportunities and support in making non-stereotypic choices.

Sex-Role Stereotyping and Written Materials

Counseling Materials

Additional supporting evidence for counselor bias is cited also by Oliver (1975). She then reminds her readers that a related bias issue is the use of sex-stereotyped tests and occupational information. Though the Strong Vocational Interest Blank (SVIB), one test widely used in vocational counseling, has been revised to expand career exploration for women and is now labeled the Strong-Campbell Interest Inventory, the old forms of the SVIB for women and the SVIB for men, as well as other sex-biased tests, are still being used by some counselors (Hansen, 1977).

According to Oliver, citing Birk, Cooper and Tanney (1973), career information commonly used by counselors has been shown to reflect the sex stereotyping in the world of work. These authors examined over 2,000 illustrations in popular sources of career information (such as the Occupational Outlook Handbook, the Encyclopedia of Careers, the SRA Occupational Briefs, and assorted brochures). They found that (1) women and members of ethnic minorities are severely underrepresented; (2) Asian Americans are typically pictured in laboratories; (3) women are depicted as smiling, while men appear to be absorbed in the serious business of work; and (4) women are seldom pictured outdoors or involved in activity, but are frequently pictured as the career representatives for service occupations.

In an article, Harway (1977) reviews findings of bias in counseling materials, college admissions materials, college catalogs and textbooks. She also presents the results of three original studies which were done as a report for the National Center for Education Statistics, Department of Health, Education, and Welfare. Since the review gives strong evidence that sex stereotyping abounds in these materials, Harway alerts counselors to take responsibility for raising questions about:

> every tool they use, whether it is an interest inventory, career brochure, college catalog, or the Occupational Outlook Handbook. They must ask whether the information or the test reflects stereotypical roles for men and women, and whether the materials tend to close certain career options for either sex (p. 63).

The question about how knowledgeable college counselors and faculty are about women and work has not been answered, or even asked, by researchers. But Bingham and House (1973) did ask those questions of high school counselors and found that they were not well informed about recent reports concerning working women. Over half of the items on a questionnaire reflected inaccurate counselor information. Bingham and House also discovered in this study that female counselors were more likely to have correct information about women and work than were male counselors.

Use of Language as a Barrier to Career Development

Tanney (1975), in a paper presented at a national conference on sex bias in career interest measurement, reported that her studies supported the need for examining the linguistic aspects of interest inventories. She notes that other disciplines have investigated the use of lanaguage to communicate ideas about the appropriate behaviors of men and women. For instance, one study of sociology students indicated that their perception of the use of the word "man" in textbooks and lectures meant "male," not human beings of both sexes (Schneider and Hacker, 1973).

An applied sociolinguist (Farb, 1974) documented his assertion that English is a "sexist language that expresses stereotyped attitudes toward one sex at the expense of the other" (p. 142).

Dunkle and Sandler (1974), in an article reviewing the implications of Title IX for students, note ways that textbooks portray women in a biased, stereotyped manner. They review other studies in this area and give examples and other documentation, such as particularly offensive passages in medical textbooks. They cite a study of government texts which showed how discrimination is perpetuated: by barely mentioning women; by using illustrations and texts which were often condescending and perpetuated stereotyped roles, and which also largely ignored much of the subject matter dealing with women, e.g., famous women, women's suffrage or the women's movement.

After reviewing a number of psychology textbooks commonly used in graduate education, a task force of the American Psychological Association found reasons for making strong recommendations to counter the overuse of the male gender in writing style and to counter the notion that certain behaviors are automatically sex-linked (Birk, Banbanel, Brooks, Herman, Juhasz, Seltzer and Tangri, 1974). The APA has now published a set of guidelines for psychologists to follow in sex-bias-free professional writing (American Psychologist, 1977). Since most research has been male oriented, using male subjects and "male" or "agentic" research models (Carlson, 1972; Crites, 1969; Levitt, 1971), written material, as well as counseling practice, has demonstrated an appalling ignorance of women and their career behaviors and patterns. The career development and career behavior of women are only beginning to be accepted as a bona fide research topic.

These are some of the barriers to the non-sex-stereotyped career development of women; that they affect men as well is not quite as obvious. What is apparent is that instead of liberating women and men from the bonds of sex roles, the postsecondary/higher educational institutions have perpetuated the stereotyping learned in the home and in the elementary and secondary schools.

PART IV: INTERVENTIONS AIMED AT REDUCING SEX STEREOTYPING

Though the effects of sex discrimination and sex-role socialization have been well documented, the established systems of higher education have been slow to respond. Most deliberate programs or interventions of any kind which are aimed at reducing overt and subtle sex bias in colleges and universities have been initiated by non-traditional programs for students with non-traditional career goals, primarily women and ethnic groups. Only within recent years are college counseling centers and academic departments recognizing that the more "typical" undergraduate woman faces some of the same problems and wishes to deal with some of the same issues. The following pages describe some efforts, often unsupported by academia, at prevention and remediation.

Programs

Continuing Education for Women

The most widespread efforts to address the needs of women have been made for several years by the many continuing education programs for women. Several hundred such programs in the United States have taken the initiative in offering a variety of courses, workshops, and services for adult women (Continuing Education Programs and Services for Women, 1971). A considerable number of these services and programs address the career development needs of women (and are open to men), many of them in the midst of major changes in career and lifestyle. Examples of and references to some of these programs appear on the following pages; and by perusing brochures and catalogs published by such programs, one discovers the diversity, breadth, and creativity of their offerings.

Women's Centers

Women's centers, most of them established in the late 1960's and early 1970's in response to the demands of newly aware and vocal women students and some liberated administrators, now number over 600. These centers also serve women of all ages through a variety of activities: from counseling, to information centers, to child-care centers, to centers of political action, and in some cases to continuing education and women's studies classes (Women's Centers, Where Are They? 1975). Vocational and personal counseling is aimed at raising women's aspirational levels and building positive self-concepts. Such centers serve as a support base for women who need encouragement to take charge of their own lives and also assume an advocacy role for students who are victims of various forms of sexism on campus. As yet there is no corresponding system of men's centers.

Women's Studies

Another kind of intervention has been the development of women's studies programs. Mary I. Bunting, for several years president of Radcliffe College and now a professor at Princeton, stated in a paper presented at a conference sponsored by the New York Academy of Sciences on successful women that women's studies courses "will have profound effects on women's careers...that they will help to change the climate of unexpectation...that discourages young women." She went on to say:

> College is the time in life when bright young people make and remake career decisions. It is when young women, at least those in coeducational colleges, face career choices realistically. Thanks to women's liberation and the courses and conversations it has fostered, they can now do so more openly and with more alternatives and encouragement than in the past (Bunting, 1974, p. 210).

The kinds of women's studies courses Bunting referred to have indeed flourished in the past few years, constituting a creative curriculum reform in higher education. According to a catalog published by the Clearinghouse on Women's Studies (Who's Who and Where in Women's Studies, 1974), over 4,000 women's studies courses were being offered in 1974 on campuses throughout the country. In some cases a women's studies department has been established; in others, interdisciplinary programs pull together a substantial number of courses pertaining to women from a variety of academic departments. Though these programs have done much to raise the consciousness of women, in themselves they offer few career options and are subject to budget cutbacks.

Flexible and Non-traditional Programs

Part-time or "reduced schedule" study is gaining momentum, according to On Campus with Women (June 1976). The short article in that publication gives, as two examples, the fact that part-time scholarships have been awarded to enable adults 25 years and older to begin or resume undergraduate studies at Hofstra University (New York) and the fact that scholarships for aid are available at Smith College (Massachusetts) for either part-time or full-time study to women whose academic careers have been interrupted. The Joint Committee on the Status of Women at the Harvard Medical School has compiled a list of 275 institutions offering part-time residencies to medical schools.

Following a severe indictment of the failure of American education to "conceive of women as an important source of professional talent" and citing American education as an active source of discouragement, Bunting (1974) describes a program designed to be of support and encouragement to women with outstanding intellectual and creative ability who wished to continue their professional interests on a part-time basis. This program is the Bunting Institute, which offers both an Independent Study Program and a Fellowship Program.

> Designed primarily for married women with children, the Program for Independent Study offers financial assistance and other aids to women in the Boston area who have projects on which they wish to work but are handicapped by lack of time, the unavailability of university resources, or by more subtle forms of isolation. The program offers money to free their time, a study or studio or lab, access to libraries and computers, a chance to audit courses, and opportunities to confer with faculty members at Harvard and with each other (p. 210).

By 1973 some 35 to 40 women had participated in this program--begun in 1961--most of them working part time over a two-year period.

The Fellowship Program, also part of the Bunting Institute, was set up to offer financial assistance for women to continue advanced studies on a part-time basis. The Institute even successfully negotiated flexible schedules with hospitals and deans of medical schools for medical women students.

Flexible and innovative curriculum offerings as well as the granting of credit for competencies are other means for opening the doors of academia to women. Vriend (1975) points out that the goals and composition of the community college make it especially relevant to the career development needs of women; low-cost, flexible, non-traditional programs are offered in the community colleges, and "alternative learning patterns are a part of a process which characterizes a shift from a youth-oriented, full-time day student focus in higher education to an adult population, including young adults, and a life-long learning system" (p. 67).

Vriend points out that community colleges often make it possible to obtain credit for life experiences and accomplishments, credit by examination; that they offer correspondence courses, media-assisted learning, independent study, regional counseling and learning centers, and other services. She then describes an assessment-counseling-support network at Wayne County Community College in Detroit which is designed to provide entry-level experience dealing with the needs of the whole student, and which integrates guidance and counseling services with academic supportive services.

Credit for Alternative Life Experiences

Another innovative practice which recently has become a facilitator of the educational and career development of women students is the practice of documenting competencies acquired as a volunteer and/or homemaker. Ekstrom and Lockheed (1976) describe the procedure and remind their readers that:

> Across the nation, colleges are beginning to accredit skills acquired from non-formal learning. Working with the Council of National Organizations for Adult Education, the Educational Testing Service in Princeton has developed 14 volunteer and 6 homemaking competency "I Can" lists. The purpose of these lists, which cover areas such as management, counseling, research, nutrition, etc., is to help individuals obtain college credit for learning acquired from two commonly overlooked areas: volunteer work and homemaking (p. 21).

Also facilitating progress through our educational institutions is the College Level Examination Program. Over 1,500 colleges now grant college credit on the basis of CLEP test results.

Counselor Training

Though a great deal of criticism has been leveled at the counseling profession for its widespread sex bias (Mishler, 1975; Thomas and Stewart, 1971), reports of efforts to train and retrain counselors, to raise their awareness, or even to provide new information which would decrease sex bias in career counseling are relatively rare in the literature.

Schlossberg and Pietrofesa (1973) apparently have been among the leaders in counselor education on this particular issue. They describe models of several workshops based on the notion that sex stereotyping exists among counselors and that it can be modified. They suggest and describe a four-pronged training model for counselor education, which expands the cognitive understanding of participants and raises consciousness regarding sexual bias, using group techniques. They use audio-video taping and role playing to promote the acquisition of new non-biased helping skills. Their program also uses tutorial projects to foster new skill development. In an effort to improve counselor training, Schlossberg (1974) describes her counseling model in detail and illustrates it. With the purpose of developing an awareness of what liberated counseling means, she gives examples of facilitative and non-facilitative responses to clients.

One workshop to be used for staff development, described by Lewis and Lewis (1974), is aimed at raising counselor consciousness. They recommend integrating discussions of sex bias into psychological subject matter, role playing, readings, and small-group experiences aimed at consciousness raising.

Project BORN FREE is a staff development intervention aimed at reducing sex-biased counseling and teaching. The materials include learning activities, packets, readings, and videotapes.

Sex bias in psychological testing, especially the tests used in career counseling, has been the focus of criticism in recent years. To look at the issues, a special conference was sponsored by the National Institue of Education in 1974 and a number of significant papers were presented at that meeting. The conference proceedings have been published (Diamond, 1975) and provide provocative information to be used by counselors as they attempt to become more informed and bias free in their test interpretations and counseling.

Leonard et al. (1974) have addressed the problem of women in counselor education departments. They show how an organizational change model can be applied to a counselor education program and suggest a variety of interventions through which women can improve their learning conditions and then transfer their learning to the systems where they eventually will be employed.

Certainly the counseling profession's most vigorous attack on sex bias was the project on Sex Equality in Guidance Opportunity (SEGO), a joint project of the American Personnel and Guidance Association and the U.S. Department of Health, Education, and Welfare. After organizing and running over 300 workshops on sex equality in education at all levels, a handbook was published (Verheyden-Hilliard, 1975) which shares the experience gained by the SEGO staff in designing the workshops. The handbook presents a model workshop on sex equality in education and provides other information, models, resources, and activities for educators who are making efforts to reduce sex bias in their educational institutions.

Resource Publications

Written materials such as the SEGO handbook are certainly the most prominent and prolific of all interventions which are directed at professionals. Numbers of publications, journals, books, and bibliographies on the subjects of career development and/or women's development are now reaching the hands of counselors and other educators. Entire issues of professional journals have in the recent past been devoted to the problems which women are facing today, including that of free career choices. Some of these special issues were published by *School Review* (1972 and 1976), several issues of the *Journal of Social Issues*, *Counseling Psychologist* (1973, 1976), *Personnel and Guidance Journal* (1972), and *New Directions in Higher Education* (Rose, 1975). Periodicals devoted entirely to women, which deal with career development as well, are the *Journal of the National Association of Women Deans, Administrators and Counselors*, *Women's Work* (a bi-monthly published by Wider Opportunities for Women in Washington, D.C.) and the scholarly new journals *Signs*, *Psychology of Women*, and *Sex Roles*.

Monographs (Knox, 1975; House and Katzell, 1975; and the Association for Counselor Education and Supervision publication edited by Guttman, 1974; annotated bibliographies (such as those by Astin, Suniewich and Dweck, 1974; and Westervelt and Fixter, 1971); and books such as *Women on Campus* (1975), *Women and Success* (Kundsin, 1974), Juanita Kreps' two books on women and their impact on the economy (1971, 1976), *Emerging Woman* (Osipow, 1975), *Woman's Place* (Epstein, 1970), Hansen and Rapoza's *Career Development and Counseling of Women* (1977), and the Carnegie Commission's *Opportunities for Women in Higher Education* (1973) are all invaluable resources for counselors and other educators.

Certainly the most up-to-date resource on women in higher education is the newsletter *On Campus with Women*, published by the Project on the Status and Education of Women of the Association of American Colleges. The Project, headed by Bernice Sandler, provides a clearinghouse of information concerning women in education, and the newsletter is a gold mine of brief reports on programs, new publications, progress on affirmative action efforts, legislation, etc. The Project, in addition to the newsletter, "has also published and disseminated over 50 papers, and also functions as a liaison between academic and women's groups and federal policy makers" (*On Campus with Women*, October 1976).

A booklet especially for use by counselors, counselor educators and school administrators was written by Bem and Bem (1975) and published by the Pennsylvania Department of Education. It deals succintly with the issues of sex-stereotyped career choices (the reasons for such choices being cited as discrimination, sex-role conditioning and the presumed incompatibility of family and career) and the future role of the counselor. It is an excellent, readable single source of information, and contains some suggestions for action as well.

The ERIC Clearinghouse in Career Education has published *A Career Education Primer for Educators* (Wernick, Tiedeman, Eddy, and Bosdell, 1975), which presents a particular viewpoint on career education, and also provides an extensive appendix which lists significant ERIC literature on career education in the whole spectrum of educational institutions, including higher education. Some of this literature has relevance to sex-role stereotyping in career development.

For those educators who are looking for assistance in planning career guidance programs for adults, Harrison's book, *Career Guidance for Adults* (1976), would be a valuable resource. She has listed and described, after a national search, the most successful and viable approaches to career planning and development for adults in the nation, with special focus on women and ethnic minorities. This catalog of over 200 pages also includes a manual which is designed to help plan activities and programs to enhance the career choices of adults. The American

Institutes for Research has cooperated with the National Consortium on Competency-Based Staff Development to develop a series of modules, one of which is designed to assist with life and career planning for women and girls (Birk, 1976).

Recent written materials which intend to broaden the choices and choice-making abilities of women are now available to the general public, as well as to professionals. For example, McCoy and Cassell (1974) have published a workbook for group participants. Catalyst, the national non-profit organization dedicated to expanding career opportunities for college-educated women, has published a series of booklets, 20 or so of them designed for women who wish to enter or re-enter the labor force, such as Planning for Work (Krohn, 1973); others are designed for the undergraduate woman, such as the Planning for Career Options (Krohn, 1975), and Have You Considered Accounting? (Catalyst, 1975).

A planning and activity book which is designed to help women apply the strategies of decision making to planning their lives has been published recently by the College Entrance Examination Board (Scholz, Prince and Miller, 1975). The American College Testing Program has published a booklet aimed at attracting young women to scientific careers (Women in Science and Technology, 1975).

Seminars, Workshops, and Courses

By far the largest number of programs to enhance the potential of women in higher education uses the vehicles of group, seminar, or workshop. Harrison's compilation (1976) is the most comprehensive resource for such programs (some are offered by community agencies but most by educational institutions). However, a few others appear in the literature, some with empirical data, and are described briefly here.

Smith (1976) describes a one-day workshop which was designed to increase the self-awareness of talented high school women (prospective university students) and to explore the barriers which they believed affected their career choices. Role conflict (among career person, parent and/or spouse) was perceived as the greatest deterrent to choosing traditionally male science careers. Young women who had ACT scores above 27 in mathematics and natural science and who were in the top 15% of applicants to the University of Kansas in mathematics and science participated in this workshop, which was carried out by staff members from the University. During the six-hour workshop, subjects examined their own interests and capabilities, related their findings to career options, explored various factors (including barriers) affecting their decision making, discussed their capabilities and career aspirations with their parents and/or each other, re-examined their ideas about a woman's pursuing a traditionally male science career, and talked with women in traditionally male science careers about pursuing such a career. Workshop leaders helped the group explore barriers (especially role conflict) during discussion with role models.

Smith notes a trend of a higher proportion of the treatment group toward choosing traditionally male science careers, in comparison with a control group from the previous year. However, in 1975 (compared with 1974) such a trend was consistent with a national trend, so the effect of the treatment is difficult to confirm.

In an attempt to tap the underutilized scientific resource which women represent, the National Science Foundation has made grants totaling nearly a million dollars to support science careers and science career-facilitation workshops. The workshops, held in 17 states and involving approximately 6,000 undergraduate and graduate women, are designed to encourage women to consider science careers. The career facilitation projects, planned for ten states, are aimed at women who received bachelor's or master's degrees in science between two and fifteen years ago, but who are not employed in scientific fields. The program is designed to upgrade their knowledge and skills so that they can enter directly into graduate school or employment in scientific fields.

On Campus with Women

A 1973 workshop on women in science and technology offered at the Massachusetts Institute of Technology and funded by three foundations, was offered to over one hundred men and women from schools, industry, governmental agencies, and women's organizations. The purpose of the workshop was to think and plan together about ways to open up opportunities for women in science and technology (Ruina, 1973).

Some colleges are making direct efforts to attract women into business and management programs. Boston University's School of Management has launched an effort to recruit women students and has plans to alter its hiring policies in order to increase the number of women faculty. Roberta Clarke, special assistant to the dean, notes that the MBA program is "particularly attractive to women when they can continue to work or raise a family while studying for a degree." In 1975, 75% of their female graduate students were doing so (On Campus with Women, May 1975).

Dartmouth College has received $75,000 from the Mobil Foundation for a program to encourage women students to pursue careers in business and industry. The program includes career conferences, an in-residence program during which businesswomen make week-long visits to the campus, attend classes and lecture and counsel students; and a scholarship program to provide stipends to five junior and senior women (On Campus with Women, May 1975). Various other efforts to attract women into non-traditional fields are described in other issues of On Campus with Women.

Lloyd (1973) looked at the differential effects of active versus passive participation in producing increments in information about women and changes in career expectations. The active treatment included participation in a life-planning workshop as well as a group of readings, and the "passive" treatment consisted of readings only. On several indexes there was no difference, but Lloyd did find that the life-planning workshop in combination with readings was an effective means of inducing significantly greater attitude change than just the readings or the no-treatment condition.

In some programs personal development is the goal. Nichols (1974) describes a seminar in personality development for mature women. The seminar, open to both women and men, incorporated the academic content of a regular course in personality development and added to it a reorientation to academe, plus individual and personal counseling. The participants were mature women who wanted to return to the University of Arizona to complete an interrupted education. Many were not sure of educational or vocational goals. Others lacked self-confidence.

Since enrolling in the seminar, 20 of 37 students who replied to a questionnaire did enroll in school with a definite goal in mind, and nine others planned to enroll in the future. Nine, while still working at home, reported that they were better satisfied with themselves as persons. The participants said they understand themselves and their husbands and children better, are more confident in many ways, are more capable intellectually than they had realized, and "enjoy intellectually challenging material more and have a new and more specific purpose in life" (p. 127).

Babcock and Kaufman (1976) report a study which looked at the effectiveness of a career course using values-clarification strategies, decision-making exercises, readings and discussions on job satisfaction and workpower projections. They concluded that this learning experience "can be employed effectively in a college setting as a model for facilitating students' vocational development" (p. 265). One glaring weakness of this study is that the group with hours of vocational-development class experience was compared with a group receiving individual counseling, where the amount of contact was an average of only 1.3 hours; and conclusions were based on the fact that people with the class experience scored higher on two criterion measures used to evaluate the class effectiveness.

A noncredit seminar entitled "The Emerging Woman" was established at a community college in Maryland, with the intent of helping women explore their aptitudes, interests and goals, and to "facilitate personal growth through self-awareness and interaction with others" (Blimline, 1974). Results of the effectiveness of this seminar were not reported, but a profile of the 81 participants was given. Seventy-two of the 81 were married, most had children, and about half had had less than two years of college. Blimline administered the Edwards Personal Preference Schedule and the Strong Vocational Interest Blank for women, and she found that about half scored at about the 75th percentile on achievement, exhibition, autonomy, intraception and heterosexuality; less than 10% scored high on deference, order, affiliation, abasement, nurturance and endurance. They were also highly verbal and high in social service interests.

McCoy and Cassell (1974) have designed a workshop for women who are uncertain about life goals, may be considering major changes in their lifestyle, want more information about education or work, or are concerned about self-awareness and personal growth. The authors have written two manuals, one for leaders and one for participants, which help to provide structure for the workshop.

Several counselor educators and psychologists have developed special courses relating to career development and sex roles for counselors. These include "Career Development and Counseling of Women" created by L. Sunny Hansen, and "Achievement Motivation of Women" by Pat Faunce, both at the Universith of Minnesota; "Career Development of Women" taught by Peggy Hawley at San Diego State; a course on "Sex-Fair Counseling" offered by Jan Birk at the University of Maryland; and "Counseling and Sex Roles" developed by Lenore Harmon at the University of Wisconsin at Mileaukee.

Other interesting courses and seminars address the needs of women. Osborn (1975), for instance, describes a course in creative thinking and problem solving, which he teaches at George Washington University. Kaye and Scheele (1975) did a survey of 60 programs that were designed and implemented for women, primarily in university extension, college, management-training groups and private consulting firms. They divided these programs into two types, life-planning and skills-building programs. The life-planning programs teach women those abilities that allow them to take charge of their own lives, including assertion training, career planning, and the building of support groups. The skills-building programs are directed to specific management or organizational competencies, such as running meetings, writing proposals, managing finances, making public presentations, and supervising others.

One example of such a life-planning service for leadership training is called Future FOCUS, which offers workshops to undergraduates through campus career and placement offices, to adult women through university extension programs, and to private clients. These workshops use action-oriented techniques to help women reach career and other goals, as well as techniques of coaching new behavior and stimulating fantasy. Farmer (1976) and Smith (1976) give examples of films which have been used as vehicles for changing attitudes. Farmer (1976) also cites examples of decision-making training and groups focusing on the job search.

Kaye and Scheele (1975) deplore the fact that education has stressed general education to the exclusion of life planning and skill building and quote educator Mary Bunting, who has reported that women who have achieved leadership positions view their education only as a resource, rather than as a force that directed their lives.

Besides providing general summaries of individual programs, plus addresses so additional information can be obtained, Kaye and Scheele describe some leadership programs which have been developed and incorporated into curricula in higher education.

One recommendation Kaye and Scheele make is that some form of career education be provided for any interested undergraduate, using field experiences and the teaching of leadership skills.

Besides the many social and psychological influences which restrict women's choice of careers in traditionally male fields, primarily the sciences, another limiting factor is that most women avoid the mathematics courses in high school which open doors to college programs in the sciences and technical fields. The Carnegie Commission on Higher Education, in its 1973 report, specifically recommends more mathematical training for girls, particularly at the precollege level (p. 5). The Carnegie Commission states about women: "not only have they preferred fields that lead to traditionally female professions, but they also tended to avoid fields requiring extensive application of mathematical reasoning" (p. 64). The Commission recommended that colleges and universities make special provision to "ensure that women desiring to major in fields calling for extensive use of mathematics are encouraged to make up this deficiency in order to enter fields of their choice" (p. 79).

Ernest (1976) and Tobias (1976), after describing the remarkable effects which math avoidance has on the career choices of women, do cite some programs which have been designed to counteract math avoidance. For instance, Ernest notes that IBM has funded a program whereby women mathematicians will visit secondary schools in several metropolitan areas, giving lectures "to interest girls in studying mathematics by providing a role model, and to impress advising and guidance personnel with the importance of mathematics for girls and the career opportunities for women scientists and mathematicians" (p. 10).

Ernest and his group specifically recommend that "every college and university offer, for credit, appropriate pre-calculus courses" (p. 11). Some exciting efforts are under way, as Ernest notes. Women faculty are encouraging women students, women students are encouraging each other, and as Ernest says, "a little encouragement can make a tremendous difference in female participation and performance levels in mathematics"; he then gives documentation. Women students at MIT compiled a booklet about the school's opportunities for women and mailed it to 10,000 female high school juniors, which resulted in 1,400 inquiries from women about admission to MIT, nearly four times as many as the year before (Ernest, p. 13). At Mills College--an all-women's school in Oakland, California--a special recruitment, counseling, and skills-building effort resulted in a doubling of mathematics enrollment. Ernest also recognizes the importance of role models, even in reading material, and lists several biographical accounts, articles and books by and about women mathematicians.

Ernest also applauds the fact that a number of investigations are currently under way to probe into such questions as why there are so few women mathematicians, what can be done about it, what the role of educators is in developing mathematical self-confidence, and what the relationships are between feminine stereotypes and competency feelings about mathematics (p. 19).

Believing that the educational establishment must accept the fact of extreme sex differences in mathematics as a "major failure of our pedagogical system," Ernest strongly encourages remedial action. He cites examples of positive beginning efforts--such as one "concerned with 'mathophobia,' which uses general reading, graphing exercises and weekly one-to-one tutoring" (p. 20). All female mathematics classes, too, have been tried at the University of Missouri, Kansas City, as well as at several other institutions, a phenomenon which, Ernest notes, is "slightly controversial."

The Math Anxiety Clinic at Wesleyan University has been used as a model for other campuses. Funded in part by a grant from the Fund for the Improvement of Post-Secondary Education (HEW), this program incorporates learning skills with learning to manage anxiety. Tobias (1976) lists several other programs designed to interest high school girls in math and math-related fields. She also describes some college programs which offer workshops or courses to prepare women in introductory mathematics, as well as in more advanced work. The Wesleyan program also is mentioned in On Campus with Women (April 1976), as are two other mathematics programs for college women--one at Wellesley College in Massachusetts, the other at the University of Michigan.

Role Models

Several interventions reported in the literature address the issue of the lack of successful career women who can serve as role models (Elliott, 1973; Friskey, 1974; Goad and Plotsky, 1976; Plotsky and Goad, 1974; and Smith, 1976).

Elliott (1973) investigated the use of videotape modelings as a technique in career counseling. The study was designed to answer the question of the effect of information presented by female role models on the occupational aspiration level of college freshman women. In this study, women who operated at high levels of occupational and family responsibility were interviewed on videotape. Twelve 30-minute videotapes were shown to 30 college freshman females who had scored low on a test measuring occupational aspiration. The tapes were viewed in small-group settings and were followed by a 30-minute discussion period in which the goal was to help the college women examine their own views on ideas expressed by the role models. Comparing the treatment group with a no-treatment control of 43 females who were similarly low on occupational aspiration, Elliot found that the treatment had the effect of increasing occupational aspiration levels significantly more than for the no-treatment control group on 7 of 8 aspiration scales of the test measuring occupational aspiration.

Davis (1974) has for several years taught a course designed primarily for women in non-traditional programs, focusing on the experiences of professional women who come to the classroom to be interviewed by both professor and students.

Smith (1976) reports the use of successful women in science who participated in discussions of role conflict with talented high school women prior to their entering college.

Goad and Plotsky (1976) and Plotsky and Goad (1974) describe two all-day conferences, one for undergraduate women and one for graduate women, at the University of Texas, Austin. They were both designed to offer opportunity for the students to discuss their career choices and to explore strategies for coping with the double stress of career and marriage lifestyles or career and single-person lifestyles. The conference for undergraduates provided exposure to successful women who had been active in their careers for three to ten years. This conference also aimed "to prick the consciousness level of the undergraduates and inspire them to question alternative patterns for their future" (Plotsky and Goad, 1974, p. 486). Of the 2,500 graduate women on campus, invitations to the graduate women's workshop were mailed to a random sample of 500. Each person receiving an invitation was asked to list three professional and three personal issues she wished to discuss with the faculty women who served as resources. The professional issues which then appeared on the agenda were: commitment to a profession, integration of the aspects of a complex life, job hunting, vita preparation, relationship of professional women to professional men, aggression versus assertion, salary scales, and employment flexibility. Some of the personal issues at the conference were: child care, communication between spouses, the mental health of women professionals, coping with personal decisions, role juggling and obstacles in graduate school. Written evaluations by graduate women and professional women who attended were both positive and supportive. Three subsequent activities were stimulated: seminars in resume writing were initiated, faculty women agreed to serve as personal professional resources for the women graduate students, and several small groups continued to meet.

Friskey (1974), a recent female graduate from Princeton University, speaks personally and positively about her experiences at Princeton. One of the positive experiences she cites is a program that gave students a chance to talk with two-career couples--a Lifestyles Career Colloquium. Professional men and women of all ages participated in a program of seminars, speaking informally with students about the issues arising in families where there are two careers. A similar program was initiated at St. Olaf College in Northfield, Minnesota, in 1977, a symposium on "Dual-Career Families."

Coeducational Dormitories

Coresidential living is one aspect of college life that may support the goals of reducing sex bias in higher education. Reid (1976) concludes, as a result of comparing women in an all-female dorm with women in a coeducational dorm, that "women in co-educational residences form many more relationships with men--ranging from acquaintances through close platonic friendships, to love relationships--than their counterparts who lived in all women dorms.... The women in coed dorms become more comfortable around men...they benefit from having real people, men and women, to test out preconceived ideas of what is 'womanly' or 'manly'. As a result, they tend to abandon stereotyped notions" (p. 56).

Reid based her conclusions on a well-designed study analyzing interviews of pairs of sophomore women, matched on type of dormitory, high school experiences and family demographic data. Women in both groups made it clear that they wanted some sort of career, as well as a man, in their lives, but the coed group was more certain that the career was an essential part of their future.

> Statistically, the most significant shift in the coed group is toward greater sureness as to what each woman wanted as a career. This implies less conflict about a career and therefore more ability to consider it in a concrete way. Some of the coed group stressed the sharing of housework and child care and the importance of careers for both partners. (p. 56).

Another interesting inference from the taped interviews was that the coed group seemed to respect themselves and other women more and to be more pleased by having women friends, according to Reid.

Parent Involvement

The only intervention involving parents that we were able to find in the interventions pertaining to higher education was a program at the University of Kansas (Smith, 1976). Though that program was offered prior to the freshman year, the students involved were applicants to that university. Parents were invited to discuss with each other (and with their daughters) their aspirations for those daughters attending the workshop.

Effects of Sex Stereotyping on Men

The literature is sparse on interventions on behalf of men who are sensing the need for cutting the bonds of sex stereotyping. However, On Campus with Women (November 1975, April 1976, and June 1976) notes that the less restrictive attitudes about masculinity and femininity have prompted some colleges to institute what could be called "supportive services" for men. Some of these services are described in a resource guide and a newsletter published by the Men's Awareness Network (MAN), which is a joint venture sponsored by interested men's centers within the United States. Issues of masculinity and a comprehensive bibliography are presented in Pleck (1974). The June 1976 issue of On Campus with Women also notes that the senior honor society Mortar Board (which has been for women students only) has removed sex as a criterion for membership, though the purpose of Mortar Board--to promote and advance the status of women--remains the same.

The only reference to a program which incorporates the notions that sex stereotyping affects the career choices of both men and women was a report by Blimline (1976). As part of a community college orientation course, several segments were devoted to helping male and female students explore career goals with an awareness of the influence of sexism and stereotypic attitudes on their occupational choices. Ninety-two females and 115 males were used in this study. Exercises in three 50-minute segments included an exploration of sex-related characteristics and their relationship to the world of work, group problem solving based on a hypothetical situation, and a filmstrip outlining non-traditional jobs for both sexes. The comparison group engaged in more traditional vocational exploration exercises of the same duration. Results of this study showed no differences between the groups on several criterion measures, and the author concludes that short-term programs that claim to expand non-traditional career options should be viewed with caution.

In addition to the limited material on the effects of stereotyping on men, there is an absence of literature devoted to ongoing efforts to deal with faculty sexism in the classroom or in the advising office. Neither do we find many accounts of efforts to go beyond raising the consciousness of college counselors--to teach them new ways of communicating, or strategies for dealing with issues of role conflict and stereotyped behavior, their own and their clients'. Nor do we find accounts of how, when or if counselors obtain current information on careers, educational programs, or labor projections.

In spite of these deficiencies, however, this search for interventions reveals that there is a considerable amount of activity related to sex-role stereotyping, particularly focused on women, on college campuses and in two-year community colleges. The search did not reveal interventions in vocational-technical institutes. The search indicates that in spite of the level of activity, there is still much to be done to reduce career-related sex-role stereotyping in post-secondary/higher educational institutions.

SUMMARY

The review of the research literature on career-related sex-role stereotyping in higher education is even more extensive than the topics around which this study is organized, although the focal topics are those areas which seem most directly related to the goals of Project BORN FREE. There is a recurring theme of how women have been disadvantaged by traditional policies of higher education and how men have enjoyed advantages in attaining measured success. There are surprisingly few attempts to adjust that imbalance or to discontinue policies clearly identified as unfair or inequitable. There is almost no attempt to examine how the equally rigid sex-role stereotypes for men, which enforce competitive achievement, might be reduced in their influence. Consequently, there is a considerable need for training programs and applications of what we already know about career-related sex-role stereotyping. We already have the hard data which document the need for specific changes, and are left the task of raising awareness and disseminating information to those who have refused to take sex-role stereotypes seriously.

The usefulness of a review of research literature across such a wide field is measured by the reader's grasp of the fundamental concepts which are well supported by hard data. In an attempt to provide a summary of the insights discussed in this review, the following pages list the basic conclusions of significant research findings, with the author and date of publication. By reading the conclusions, the reader will be able to survey briefly the facts and inferences found in the research literature related to career development and sex-role stereotyping in postsecondary/higher education. However, it should be emphasized that this is a summary of specific studies; caution should be used in making generalizations without reading the original sources.

Women have been and continue to be less visible in high-paying, high-status occupations (Lewis, 1975).

The majority of professional women (70%) are concentrated in a few professions traditionally considered feminine, such as teaching, nursing, library science, secretarial work and social work (Valentine, 1975; Tangri, 1970; Herman, 1974; Almquist, 1974).

In 1970 nearly one-half of all women were working because of financial necessity rather than pleasure or self-fulfillment (Notestine and Kerlin, 1975).

Occupations stereotypically associated with high levels of competence, rationality and assertion were viewed as masculine, whereas occupations stereotypically viewed as feminine were associated with dependency, passivity, nurturance, and interpersonal warmth (Shinar, 1975; Broverman et al., 1970).

Although more women are working today than ever before, they are not aspiring to such high-level positions as women did 30 years ago (Valentine, 1975; Almquist, 1974; Farmer, 1976).

Role models, especially the maternal model, are closely related to the occupational choices of women and their motivation to pursue these choices (Tangri, 1972; Wasserman, 1973; Vogel, 1970; Etaugh, 1975; Valentine, 1975; Baruch, 1974).

Sex-role perceptions are affected by parental role behaviors, and maternal employment outside the home results in fewer perceived sex-role differences (Almquist, 1974; Broverman et al., 1972; Vogel et al., 1970; Etaugh, 1975).

Women preparing for non-traditional male-dominated fields (math, science) think men make little differentiation between male and female work roles and other related behaviors or attitudes (Hawley, 1972; Herman, 1974; Tangri, 1972).

In research on sex-role stereotypes, males are described by traits called "competency"--attributes such as being independent, objective, competitive, self-confident and logical--while women are seen as lacking these competency traits and possessing traits of "warmth and expressiveness"--such as being gentle, tactful, sensitive to the feelings of others, quiet and tender. Neither men nor women were typically seen as possessing the traits characteristic of the opposite sex (Broverman, Vogel, Broverman, Clarkson and Rosenkrantz, 1972).

Identical products are evaluated more highly when attributed to a male rather than to a female (Goldberg, 1968; Pheterson, Kiesler and Goldberg, 1971; Feidel, 1970; Deaux and Taynor, 1973; Feldman-Summers and Keisler, 1974).

Girls as they grow up learn to value boys more and themselves less (O'Leary, 1974; Broverman et al., 1970, 1972; Sherman, 1976).

Girls have greater verbal ability than boys, while boys excel in visual-spatial and mathematical ability and tend to be more aggressive (Maccoby and Jacklin, 1974).

Non-stereotypic views of the self in terms of sex differences are related to more innovative role or lifestyle plans for women (Vogel, 1975).

Generalized self-esteem measures are as high for women as for men (Maccoby and Jacklin, 1974).

The learning of adult sex roles is seen primarily as occupation-directed for males and family-directed for females (Angrist, 1972; Broverman et al., 1972; Rossi, 1972a).

Women with non-traditional attitudes toward family orientation not only fantasize more achievement, but actually achieve higher college grades (Alper, 1974).

Females who are competent and achieve are viewed as deviant from female norms and thus anxious, while women who see themselves as lacking these traits may suffer low self-esteem (Baruch, 1976; Birnbaum, 1975; Rossi, 1972a; DiSabatino, 1976; Feather and Simon, 1975).

The relationship between the search for a career and its congruence with self-concept is not as clear for women as it seems to be for men in Super's proposed model (Richardson, 1975).

Women who have clearly differentiated concepts of career woman and homemaker are more likely to have work plans congruent with their self-image, whether that is as homemaker or career woman (Richardson, 1975).

Men who see themselves as competent have higher self-esteem, while men who are not perceived as competent or successful are expected to be viewed negatively (Feather and Simon, 1975).

Males and females do not differ consistently on the Rotter scale in grade school and high school, but during the college years women tend to score higher on the external locus of control than men (Maccoby and Jacklin, 1974).

High school women who score higher on internal locus of control on the Rotter I.E. scale choose more innovative careers than those with high external scores do (Burlin, 1976).

Sex-role stereotypes of greater male control and power occur even in elementary school textbooks when male characters cause good things to happen by their own actions, while female characters profit from the actions of others or from fortuitous circumstances (Jacklin and Mischel, 1973).

Persons high in internal-control beliefs on the Rotter I.E. scale work harder for success or achievement, spend more time and have more interest in academic activities, and score higher on achievement tests (Crandall, Katkovsky and Crandall, 1965; Crandall, Katkovsky and Preston, 1962; McGhee and Crandall, 1968).

Women who subscribe to "system blame" aspire to less typical feminine roles and are more likely to seek careers outside the home (Sanger and Alker, 1972).

College students of both sexes who have strong internal-control beliefs describe themselves more positively and with more traits stereotypically seen as characteristic of the opposite sex (Keller, 1974).

Increases in internal-control beliefs are reported following participation in a community action program, when links between old successes and new goals are explicitly pointed out and when sources of possible reinforcement are described (Gottesfield and Dozier, 1966; Lefcourt and Ladwig, 1965; Lefcourt, 1967).

Women do not achieve as much as men in the professions, politics and sports as "success" is generally measured (Farmer, 1976; Maccoby and Jacklin, 1974).

Women experience a conflict between success and femininity but do not exhibit a greater "fear of success" than men (Hoffman, 1974; Zuckerman and Wheeler, 1975; Williams and King, 1976).

While women have as high an achievement motivation as men, they are more likely to focus their efforts on achievement in traditionally defined feminine tasks, just as men are more likely to focus on masculine tasks (Alper, 1974; Condry and Dyer, 1976; Stein and Bailey, 1973).

When a group of males and females are asked to predict how well they will perform on a specified task, women state lower expectancies for their performance than men do (Maccoby and Jacklin, 1974).

Women's expectancies of success in various tasks (achievement in math and visual-spacial abilities) decline in adolescence (Stein and Bailey, 1973).

Men and women do not differ significantly in the accuracy of their performance estimations, but do differ in the direction of error: males tend to overestimate their performance and women to underestimate theirs (Crandall, 1975; Maccoby and Jacklin, 1974; Cross, 1975; Epstein and Bronzaft, 1974).

Women may be underrepresented in many prestigious occupations, not only because of external barriers that limit access, but also because of internal attitudinal barriers which lead women not to aspire to such professions (Barnett, 1975).

Compared with females, males have higher career aspirations and anticipate more successful performance in a variety of tasks (Battle, 1965; Feather, 1966).

Men and women tend to have different patterns of attribution to explain the outcomes of their performance: women tend to attribute unexpected success to luck and expected failure to lack of ability (Jackaway, 1974; Frieze, Fisher, Hanusa, McHugh and Valle, in press).

Women tend to attribute both success and failure to external causes such as task difficulty or luck, so that they feel less pride in success and less shame at failure than males (Feather and Simon, 1973; Frieze, et al., in press).

It has been harder for a woman to get admitted to an undergraduate college than it has for a man (Walster, Cleary and Clifford, 1971).

There is sex discrimination in the awarding of financial assistance for college students so that a woman gets less than her share of the available money (Westervelt, 1975; Hochman and Nietfeld, 1977; Haven and Horch, 1972).

Fields are viewed as being masculine or feminine, and more women are in professions stereotyped as feminine and more men in professions stereotyped as masculine (Feldman, 1974).

Over the last decade the proportion of first-year college women planning to enter male fields such as business, medicine, law and engineering has nearly tripled (On Campus with Women, April 1976).

Counselors of both sexes perceive clients with "deviate" career goals as being more in need of further counseling (Thomas and Stewart, 1971).

Traditional counselors impute greater maladjustment to female students than to identically described males (Ambrowitz, Weitz, Schwartz, Amira, Gomes and Abramowitz, 1975).

Male counselors in training, while subscribing to a universal standard for healthy males and adults, hold another stereotypically conforming standard for healthy females (Broverman et al., 1970; Maslin and Davis, 1975).

In counseling, males are more likely to be rated as having vocational-educational problems, while females are more often rated as having emotional-social problems (Collins and Sedlacek, 1974).

Counselors are less well informed to counsel women, especially innovative women, than they are to counsel men (Moore and Veres, 1976; Oliver, 1975; Birk, Cooper, and Tanney, 1973; Bingham and House, 1973).

Career-interest measurement inventories contain a sex bias in their use of language (Tanney, 1975; Schneider and Hacker, 1973; Farb, 1974).

Textbooks frequently portray women in a negatively biased, stereotyped manner (Dunkle and Sandler, 1974; Birk, Banbanel, Brooks, Herman, Juhasz, Seltzer and Tangri, 1974).

Activities aimed at broadening career options for women are now being implemented in higher education, but very little attention is being paid to the effects of sex-role stereotyping on males (see Section IV for references). Project BORN FREE extracts imperatives for training from what is known about career-related sex-role stereotypes in higher education. Many of these insights are immediately obvious in their training applications, but most of the training approaches have had to be creative enough to address institutional biases which tend to escape detection. In conclusion, it is important to emphasize that the values at stake are not those of either men or women, or even the improvement of higher education; they are the basic elements of a just and free society in which persons will, insofar as possible, enjoy every fair advantage for advancement toward their goals. We are not talking only about jobs or work roles, but also--more significantly--about the life-goal objectives which define each of us as persons, asserting the right each of us enjoys to be "born free."

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